# LIFE is BIG

## #BePrepared

2019-2020
College Catalog

gtc.edu

GATEWAY
TECHNICAL COLLEGE

Welcome to Gateway Technical College and our Red Hawk community.

Gateway Technical College has a rich and proud history of service to students throughout southeast Wisconsin. With more than 70 degrees and diplomas, as well as over 150 certificates, Gateway is your pathways to a great job and a rewarding career.

Gateway students are valued community and industry leaders. Our United Student Government provides students a voice in their education. With more than 40 professional student organizations, your career skills are brought to life through classroom activities and labs, competitions, community service, internships and business networking. If you are interested in a more global experience, join one of several international education clubs and travel abroad to enhance your career portfolio. Whatever you choose to experience, our Gateway faculty and staff are some of the best in their respective industries.

Small class sizes, innovative labs and state-of-the-art technology create a positive learning environment. Comprehensive student services, including libraries, peer mentoring and tutoring, and academic support systems and career services for all students, highlight our commitment to your success.

Our goal is to make your Gateway experience as unique and special as you are.

Welcome to the Red Hawk tradition of individual success building community success.


Respectfully,

Bryan D. Albrecht, Ed.D.
President and CEO
Gateway Technical College

# Gateway Technical College
## District Board of Trustees through June 2019

The Gateway Technical College District is governed by a nine-member board of trustees representing the communities served by the three-county district, which is comprised of two employer members, two employee members, one elected official, one school district administrator and three additional members. Members are appointed by the chairpersons of the Kenosha County, Racine County and Walworth County Boards of Supervisors and serve staggered three-year terms.
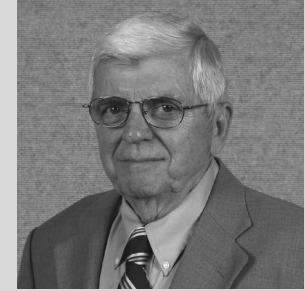
The Gateway Board's monthly meetings are open to the public. Information on their meetings can be found at **gtc.edu/board**.

**Ram Bhatia**
Racine County

**William Duncan**
Walworth County

**Ronald J. Frederick**
Kenosha County

**Jesse Adams**
Walworth County

**Bethany Ormseth**
Kenosha County

**Arletta Frazier-Tucker**
Racine County

**R. Scott Pierce**
Kenosha County

**Roger Zacharias**
Kenosha County

**Pamela Zenner-Richards**
Racine County

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WISCONSIN
**TECHNICAL COLLEGE**
SYSTEM
MEMBER COLLEGE

**wistechcolleges.org**

**gtc.edu**

Gateway's campuses and advanced technology centers are equipped to provide students with state-of-the-art learning opportunities. The three full-service campuses in Elkhorn, Kenosha and Racine are home to Learning Success Centers, Follett Bookstores, libraries and Student Services Centers. Get a sneak-peak of Gateway's facilities by taking a virtual tour at **gtc.edu/virtualtour**.

**Burlington Center**
496 McCanna Pkwy.
Burlington, WI 53105-3623

**Elkhorn Campus**
400 County Road H
Elkhorn, WI 53121-2046

**HERO Center**
380 McCanna Pkwy.
Burlington, WI 53105-3622

**Horizon Center for Transportation Technology**
4940 - 88th Avenue (Highway H)
Kenosha, WI 53144-7467

**Inspire Center**
3520 - 30th Avenue
Kenosha, WI 53144-1690

**Kenosha Campus**
3520 - 30th Avenue
Kenosha, WI 53144-1690

**LakeView Advanced Technology Center**
9449 - 88th Avenue (Highway H)
Pleasant Prairie, WI 53158-2216

**Racine Campus**
1001 South Main Street
Racine, WI 53403-1582

**Administration Center**
3520 - 30th Avenue
Kenosha, WI 53144-1690

**WGTD-HD**
Your Gateway to Public Radio
wgtd.org

**1-800-247-7122**

**Wisconsin Relay System: 711**

**gtc.edu**

**SC Johnson iMET Center**
2320 Renaissance Blvd.
Sturtevant, WI 53177-1763

Gateway Technical College provides quality technical education to the residents of its district, which is comprised of the Southeastern Wisconsin counties of Kenosha, Racine and Walworth. Gateway is one of 16 technical college districts which make up the Wisconsin Technical College System. Gateway is a taxpayer-supported institution of higher education, offering more than 70 degree and diploma programs, as well as more than 100 certificates. Gateway provides you with almost limitless alternatives for your educational and employment future.

Associate of Applied Science Degrees and Technical Diplomas are awarded upon successful completion of individual program requirements. Within many degrees and diplomas, short-term certificates and diplomas are available that prepare students for jobs on the pathway to their ultimate degree and career goal. Advanced Technical Certificates allow those with a degree and/or work experience to gain advanced training in specialties related to their field of employment. Other certificates allow students to earn concentrated credits in targeted fields, which can be marketed to a future employer.

Gateway also provides opportunities for high school students to begin their college education early through such efforts as Start College Now, transcripted credit and dual enrollment. Many students engage in these opportunities to earn college credits while still in high school, allowing them complete their college education quicker, get into their career sooner and save money.

## Mission Statement

We deliver industry-focused education that is flexible, accessible and affordable for our diverse community.

## Our Vision

We make life-changing educational opportunities a reality.

## Values

At Gateway Technical College, we value:

- diversity of individuals and perspectives.
- a positive climate for working and learning.
- innovation and risk-taking.
- honest and ethical behavior.
- quality and excellence in education.

## Core Abilities

We believe students need technical knowledge, skills and core abilities to succeed in careers and in life. Our nine core abilities are the general attitudes and skills essential for every successful graduate. Our faculty promotes the development of these core abilities through learning experiences in all Gateway Technical College courses. We continually assess our students' learning in these areas to improve the general components of a Gateway Technical College education.

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job-seeking skills.
6. Respect self and others as members of a diverse society.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

## General Education Philosophy

We believe students need general education skills in order to succeed in career and life. Recognizing this fundamental importance, the college requires general studies coursework in all programs of 45 credits or more. General education gives students effective communication, mathematics, scientific thinking and global social skills.









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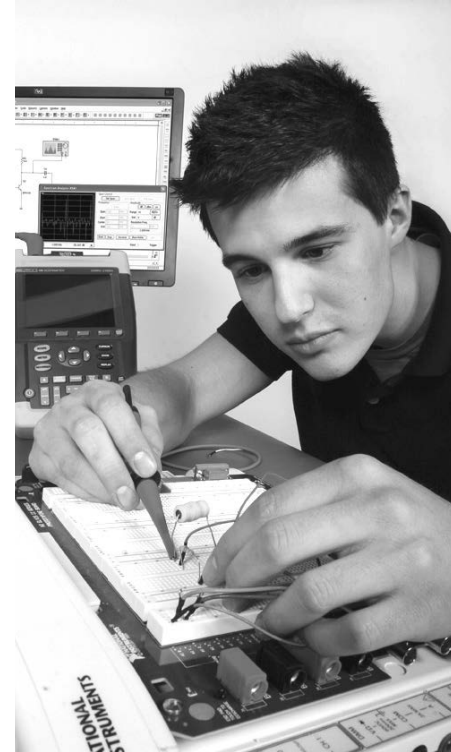
GATEWAY
TECHNICAL COLLEGE

## More than 100 years of preparing students for career and life

Gateway Technical College has set the bar, and then raised it, for quality education and workforce preparation for more than 100 years -- something it continues to do today.

Gateway laid the cornerstone of career training when Racine Continuation School began classes Nov. 3, 1911, as the first compulsory, publicly funded post-secondary continuation school in Wisconsin. In doing so, it also became the first school of its kind in America and the predecessor to modern-day technical colleges.

In June of 1911, the Legislature passed a groundbreaking law calling for the creation of compulsory continuation schools in all cities of more than 5,000 residents, and Racine was the first to open. A year later, Kenosha Continuation School opened its doors, located in the auditorium of Frank School with an enrollment of 295.

Continuation schools at their birth were places where students could "continue" their education part-time if they chose to leave school at age 14. Educators at the time said these teens age 14 to 17 were falling through the cracks between education and work. They were not required to go to school, and many left—but did not have the skills to find jobs.

Enrollment in vocational schools -- as they were then called -- increased in the 1920s, and the makeup of students broadened. In addition to teens, World War I veterans returning home also enrolled in the schools, fueled in part by the opportunities created by the Soldiers Education Bonus Act.

The makeup of vocational schools in the 1930s took on a new direction because of new legislation and the Depression. The Legislature passed a school attendance law in 1933 that kept most youth in high school until age 18 or graduation -- so vocational schools continued to move toward training post-high school adults. A lack of jobs also kept students

in school longer, prompting school officials to turn to training more to adults.

Wartime impacted vocational education again. The threat of World War II prompted vocational schools to train workers for defense jobs in specialized trade courses like pilot training and ground aeronautics. By January 1942, the Racine Vocational School was operating 24 hours a day. By the 1950s, the boom of veterans enrolling into Kenosha and Racine declined, and the schools began offering more adult short-term day programs in home economics and business.

Officials increasingly began to look at another educational delivery change to ensure that vocational schools met their full potential to serve students and their communities. Their decision to begin offering associate degree programs in 1959, beginning with business education, transformed Gateway into what it is today -- an institution of higher learning. Walworth County joined the Kenosha vocational district in 1968 and constructed

a building there three years later. Kenosha Technical Institute and the Racine Technical Institute officially merged, along with the Walworth County campus, into the Kenosha-Racine-Walworth vocational, technical and adult educational District 6 in April 1971. On July 20, 1972, members of the board voted to change the district's name to Gateway Technical Institute. Its name changed to Gateway Technical College in the mid-1980s.

By 1972, Gateway was offering several different one- and two-year diplomas as well as associate degrees. Gateway continued to provide new and innovative programs to meet the needs of industry and its students in the 1980s and 1990s.

Programs developed during this time included Composite Manufacturing Technology, Desktop Publishing, Legal Secretary and Technical Communications. Gateway also worked to forge transfer agreements with four-year colleges, giving graduates even more career and educational opportunities.
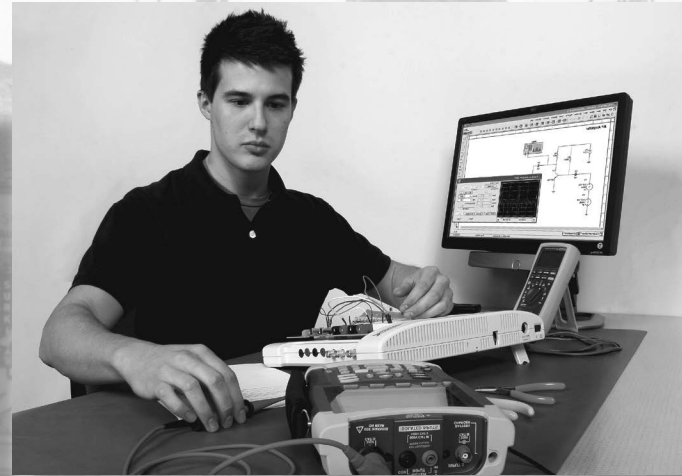
The college, from 1990s to present, continued providing innovative means to deliver education by offering courses in new and emerging careers. The college built technology centers dedicated to providing training and instruction in highly technical career fields in Sturtevant, Kenosha and Burlington.

Some of the other highlights of the last 25 years include:

- Gateway ramped up the number of program transfer agreements with four-year colleges throughout Wisconsin and in other states, providing added educational options to Gateway students.

- Gateway continues to be a state and national leader in offering "green" and sustainable career training and providing training opportunities for the jobs of tomorrow.

- Educational leaders from other countries increasingly visit Gateway in hopes of duplicating its innovative practices in manufacturing, green careers and automotive technology at their own colleges.

- Students help our communities through a robust service learning program as well as broaden their knowledge through our international study abroad program.

- In June of 2013, the Gateway Technical College Board of Trustees adopted the "Red Hawk" as the official symbol of the college. The associated mascot, Rudy the Red Hawk, represents Gateway at the college functions and at many community venues.

- Gateway partners with area businesses to provide state-of-the-art facilities and equipment to give students real-world training in leading-edge technology. The partnership extends toward business, too -- in 2016, Gateway revamped its Business and Workforce Solutions division to better meet the needs for tailored training offered to area businesses to help them remain healthy and grow.

- In February, 2016, Gateway -- with generous support from the business community -- set a new cornerstone for future generations. At a seminal event anchored by a letter from the President of the United States and a combined $700,000 gift from SC Johnson, along with Fisk Johnson, Chairman and CEO of SC Johnson, Gateway President and CEO Dr. Bryan Albrecht announced the Gateway Promise. The Gateway Promise guarantees greater access and affordability for all high school graduates who meet the eligibility criteria. For more than 106 years, Gateway has provided opportunities for its students to create their futures through a number of career paths.

- The year 2017 brought continued growth and change for Gateway as Foxconn announced that it would invest $10 billion on a 20 million-square-foot facility in Racine County. Gateway repositioned its workforce training program to prepare for the largest economic development opportunity in the history of the state.

- Advanced manufacturing took on a new element called Industry 4.0, the integration for the cyber and physical world. Gateway positioned itself to be a leading college in providing educational training for its graduates to enter Industry 4.0 careers by retooling some of its programs and offering new programs tailored to these workforce needs.

- Gateway began the work to expand its SC Johnson integrated Manufacturing and Engineering Technology Center in Sturtevant in 2018 to support the educational training needs of Wisconn Valley employers, including Foxconn. That work eventually was fueled through a state grant, set aside as part of an overall funding package. It includes a 35,000-square-foot, $5 million expansion to the current 53,000-square-foot-facility will support the growth and needs of Wisconn Valley employers through advanced training in Industry 4.0 careers.

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# Accreditation

Gateway Technical College is fully accredited by the Higher Learning Commission. The Wisconsin Technical College System board has authorized Gateway as a self-governing district. Associate of Applied Science degrees, Technical Diplomas, Advanced Technical Certificates and Adult High school Diplomas are granted.

All Gateway campuses and centers in Kenosha, Racine and Walworth counties are approved by the Higher Learning Commission. Higher Learning Commission, 30 North LaSalle Street, Suite 2400, Chicago IL 60602-2504, phone 312-263-0456, **hlcommission.org.**

The Wisconsin Technical College System Board has authorized Gateway Technical College to grant the Associate of Applied Science degree in two-year programs. Technical Diplomas are granted for one- and two-semester programs and for some multiple-year programs of study. Advanced Technical Certificates are awarded in occupational content areas. Wisconsin Technical College System Board, 310 Price Place, P.O. Box 7874, Madison WI 53707, phone 608-266-1207.

- The Aeronautics—Pilot Training program has earned Federal Aviation Administration recognition as both an FAR Part 141 Flight School and an Airway Science Program. Federal Aviation Administration, Flight Standards District Office, 4915 S. Howell Ave., Milwaukee WI 53207, phone 262-747-5531.

- The Business and Information Technology division is accredited by the Accreditation Council for Business Schools and Programs and has been granted the accreditation status of approval. ACBSP, 11520 West 119th Street, Overland Park, KS 66213, phone 913-339-9356.

- The Dental Assistant program is accredited by the Commission on Dental Accreditation and has been granted the accreditation status of approval. The Commission is a specialized accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation and by the United States Department of Education. Commission on Dental Accreditation, American Dental Association, 211 E. Chicago Ave., Chicago IL 60611, phone 312-440-2719.

- The Health Information Technology program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education, 233 N. Michigan Ave., Suite 2150, Chicago IL 60601, phone 312-233-1100.

- The Associate Degree Nursing program at Gateway Technical College is fully accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Rd. NE, Suite 500, Atlanta GA 30326, phone 404-975-5000, acenursing.org.

- The Medical Assistant program is fully accredited by the Commission of Allied Health Education and Programs (CAAHEP), on recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE). Commission on Accreditation of Allied Health Education Program, 35 East Wacker Drive, Suite 1970, Chicago IL 60601, phone 312-553-9355.

- The Nursing Assistant program is fully approved by the Wisconsin Department of Health and Family Services (HFS), Bureau of Quality Assurance, 2917 International Lane, Suite 300, Madison WI 53704, phone 608-243-2019, or dhfs.state.wi.us.

- The Paramedic Technician program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP). Commission on Accreditation of Allied Health Education Programs 25400 US Highway 19 N., Suite 158 Clearwater, FL 33763, phone 727-210-2350, www.caahep.org.

- The Physical Therapist Assistant program is fully accredited by the Commission on Accreditation in Physical Therapy Education of American Physical Therapy Association, 1111 N. Fairfax Street, Alexandria VA 22314, phone 703-706-3245.

- The Surgical Technology program is fully accredited by the Commission on Accreditation of Allied Health Education Programs, 33 East Wacker Drive, Suite 1970, Chicago IL 60601, phone 312-553-9355.

# Memberships

American Association for Women in Community Colleges
American Association of Community Colleges
American Association of Collegiate Registrars & Admission Officers
American Association of University Women
American College & University Presidents Climate Commission
American Library Association
Association for Career & Technical Education
Association for the Advancement of Sustainability in Higher Education
Association of Community College Trustees
Association of Veterans Education Certifying Officials
Business Educational Partnership Group, Inc.
Business Industry Consulting Services International Incorporated
Campus Compact for Wisconsin

Chair Academy
College Board
Community College Business Officers
Council of North Central Two-Year Colleges
Council for Opportunity in Education
Council for Resource Development
Higher Learning Commission
International Society for Technology in Education
Instructional Technology Council
League for Innovation
Library Council of SE Wisconsin, Inc.
Mid-America Association of Educational Opportunity Program Personnel
Midwest Institute for International Intercultural Education
National Association of Educational Procurement
National Association of State Directors of Career and Technical Education Consortium
National Association of Student Financial Aid Administration
National Association of Veterans Program Administration
National Business Incubation Association
National Career Pathways Network
National Coalition of Advanced Technology Centers
National Coalition of Certification Centers
National Community College Hispanic Council
National Council for Marketing & Public Relations
National Council for Workforce Education
National Society of Leadership and Success
Second Nature
Small Business Development Center
Southeast Wisconsin Education Consortium, Inc.
Tempo International
Wisconsin Association for Career and Technical Education
Wisconsin Association of Public Purchasers
Wisconsin Broadcasters Association
Wisconsin Business Incubation Association
Wisconsin Educational Media & Technology Association
Wisconsin Library Association
Wisconsin Solar Energy Association
Wisconsin Student Government
Women in Higher Education Leadership

# *2019–2020 Academic Calendar*

## Special Notices

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take more than seven years to complete.

Tuition and material fees are determined by the Board of the Wisconsin Technical College System. Fees are set by the first week in April and are available on My Gateway.

Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

Curriculum in this publication is effective for the 2019-2020 academic year. Information was accurate as of February 1, 2019. Gateway reserves the right to modify course content.

The most current program and curriculum information are available at **gtc.edu**. Contact the Student Services Contact Center or visit any Student Services Center with questions.

**1-800-247-7122**

**Wisconsin Relay System: 711**

**sscontactcenter@gtc.edu**

Elkhorn Campus
400 County Road H
Elkhorn, WI  53121-2046

Kenosha Campus
3520 30th Avenue
Kenosha, WI  53144-1690

Racine Campus
1001 S. Main Street
Racine, WI  53403-1582

### Summer 2019 (May 6 through August 17)

| | |
|---|---|
| **May 6** | **First day of summer semester** |
| **May 27** | **Holiday—college closed** |
| **July 4** | **Holiday—college closed** |
| **August 17** | **Last day of summer semester** |

### Fall 2019 (September 2 through December 13)

| | |
|---|---|
| **September 2** | **Holiday—college closed** |
| **September 3** | **First day of fall semester** |
| **September 25** | **Employee Learning Day—no classes** |
| **November 28 – December 1** | **Holiday—college closed** |
| **December 14** | **Last day of fall semester** |
| **December 24–January 1** | **Winter recess—college closed** |

### Spring 2020 (January 6 through April 20)

| | |
|---|---|
| **January 6** | **First day of spring semester** |
| **January 20** | **Martin Luther King, Jr. Day—no classes** |
| **April 10-13** | **Holiday—college closed** |
| **April 17** | **Last day of spring semester** |
| **May 21 (tentative)** | **Commencement** |

## General Information

### Bookstores

Follett Campus Stores offer a complete selection of course materials, schools supplies, technology and clothing. Purchasing either in-store or online at **efollett.com** is easy and convenient. Online orders can be sent to a home address or picked up at one of the campus stores. Make sure to ask about our rental, digital and price match programs to reduce costs.

Students can use financial aid to purchase course materials in the campus stores or online. Student ID and class schedule is required. Financial aid is available for a limited time, as posted on **gtc.edu/important-dates**. Computer devices are limited to one device per Gateway career program, and other items should be purchased for school use only.

Rented books can be returned to any campus store in-person or by preferred shipping service and should be done by the posted due date at the end of the semester to avoid late fees.

Our stores buy back books year round. Buyback values will vary based on need. A student ID is required to sell books, and proof of prior enrollment may be requested as buybacks cannot be processed on current semester materials. Books may also be donated to help raise funds for Better World Books charity programs.

### Bookstore Refund Policy

Course materials may be returned within seven (7) calendar days from the start of course for any reason and up to thirty (30) days from the start of the course if the class is dropped. Short-term courses have two (2) calendar days from start of the course for refunds and mid-semester purchases have two (2) days from the date of purchase. All refunds require a receipt and items to be in original condition. Your refund will be processed in the currency it was purchased. For example, if you purchased your books/supplies with a financial aid authorization, your refund will be credited to your student account before being refunded directly to you.

All other store purchases may be returned within thirty (30) days for refund or exchange, provided they are in original condition and with receipt. Any electronic devices purchased from the bookstore are non returnable if the package is opened.

For Campus Store hours and information visit **gtc.edu/bookstore.**

> **Elkhorn: 262-741-8108**
> **Racine: 262-619-6866**
> **Kenosha: 262-564-2246**

### Library

Libraries are located on the Elkhorn, Kenosha and Racine campuses and online 24/7 at **gtc.edu/library.** The libraries support the academic, career and professional needs of students, instructors and staff. Each of the campus libraries has an extensive collection of electronic, print and multimedia resources, group and quiet study areas, computers and printers, Wi-Fi and staff to assist you with your research and information needs. Library hours, policies, services and resources are available at the library webpage. Stop by. We look forward to seeing you in our libraries!

## Admissions

The Gateway District provides an equitable process for admitting individuals to Gateway programs which is consistent with Chapters 38 and 118 of the Wisconsin Statutes and TCS 10 of the Wisconsin Administrative Code which govern the Wisconsin Technical College System. Applications and related materials are reviewed on a first-come, first-served basis.

The laws pertaining to Family Educational Rights and Privacy Act rights (FERPA) begin at the time of matriculation. A student is defined as one who has been accepted to a program and/or enrolled in a course.

### Admissions Dates

Gateway accepts applications on an ongoing basis year-round. Application processing time is typically five days.

### Student Types

#### Degree-Seeking Students

Degree-seeking students are individuals who are accepted to a specific postsecondary program with the intent of graduating. Application, application fee, placement testing, official high school transcripts and any other identified admission requirements must be completed for program admission.

#### Non-Degree-Seeking Students

Non-degree seeking students are individuals who are attending Gateway with no intention of completing a program. These individuals may enroll in courses for which all prerequisites have been met. Placement testing may be required depending on the course(s) selected. Students seeking this status do not need to complete an application for admission and may register beginning the first day of open registration. **Students accepted as non-degree seeking (not admitted to a specific program) are not eligible for federal financial aid.**

#### Guest Students

Guest students are individuals who are accepted to Gateway for the purpose of transferring credits back to the college or university they are currently attending. These individuals should complete the guest student application and return it to Gateway's Admissions Office with the appropriate required signatures or ACT/SAT scores. Gateway Technical College does not offer financial aid to guest students. Guest students must work with their home institution to develop a consortium agreement with Gateway to utilize financial aid at the home institution.

### Acceptance Status

#### Full Acceptance Status

For individuals who have met all program admission requirements.

#### Remedial Acceptance Status

For individuals who have met all program admission requirements and for whom placement scores indicate remediation is required.

#### Conditional Acceptance Status

For individuals who are required to verify high school or GED graduation for admission to their program. A conditional acceptance may apply for students who have completed their junior year of high school or at least half of their GED testing (passed 3 of 5 GED tests). To be accepted conditionally, all other admission requirements for the program must be met. Conditionally accepted students may register with newly accepted students for their first semester at Gateway. The receipt of official verification of the secondary credential or equivalent must be met prior to the start of the student's second semester of enrollment. The official date of program acceptance is the date Admissions receives official transcripts verifying high school or GED completion. Conditionally accepted students will be eligible for financial aid once they are fully admitted to their program and meet all other financial aid eligibility requirements.

### Placement Testing

All individuals applying for admission to Gateway's postsecondary educational programs must take a

placement assessment to assist in the appropriate placement in coursework. All applicants must meet the current placement test requirements for admission and courses. Individuals not seeking program admission who wish to take a college course(s) may be required to take a placement test for courses with a placement score prerequisite. When individuals with a documented disability are required to test, reasonable accommodations will be provided pursuant to state and federal regulations.

## Admission of Transfer Students

Students who want to transfer credits from another college or university to Gateway Technical College must be accepted to a postsecondary program and submit official transcripts to any Student Services Center. Official transcripts are defined as transcripts sent directly to Gateway from the issuing institution by a recognized electronic transcript service or hand delivered by the student if the transcripts remain unopened in the issuing school's sealed envelope. Official transcripts must have the issuing institution's seal and appropriate official's signature to be accepted. The Registrar's Office will review all admitted students' post-secondary transcripts and award maximum transfer credit. Please also see the section on credit for prior learning.

## Admission of High School Age Students

### Compulsory School Attendance (118.15)

§118.15 Contracts are exemptions to the requirements of compulsory attendance. Students qualify for these contracts under varying circumstances. Requirements for school districts also vary.

1. Upon the child's request of the school board and with the written approval of the child's parent or guardian, any child who

is 16 years of age or over and a child at risk, as defined in § 118.153 (1) (a), may attend, in lieu of high school or on a part-time basis, a technical college if the child and his or her parent or guardian agree, in writing, that the child will participate in a program leading to the child's high school graduation. The district board of the technical college district in which the child resides shall admit the child.

2. Upon the child's request and with written approval of the child's parent or guardian, any child who is 17 years of age or over may be excused by the school board from regular school attendance if the child and his or her parent or guardian agree, in writing, that the child will participate in a program or curriculum modification under par. (d) leading to the child's high school graduation or leading to a high school equivalency diploma (HSED). Prior to a child's admission to a program leading to the child's high school graduation or a high school equivalency program under 1 or 2, the child, his or her parent or guardian, the school board and a representative of the high school equivalency program or program leading to the child's high school graduation shall enter into a written agreement. The written agreement shall state the services to be provided, the time period needed to complete the high school equivalency or program leading to the child's high school graduation and how the performance of the pupil will be monitored. The agreement shall be monitored by the school board on a regular basis, but in no case shall the agreement be monitored less frequently than once per semester. If the school board determines that a child is not complying with the agreement, the school board shall notify the child, his or her parent or guardian and the high school

equivalency program or program leading to the child's high school graduation that the agreement may be modified or suspended in 30 days.

3. Upon the child's request and with the written approval of parent or legal guardian, a child 17 years of age or older shall be excused by the school board from regular attendance if the child began a program leading to a High School Equivalency Diploma (HSED) in a secured correctional facility, a secured child caring institution, secured detention facility, or a juvenile portion of a county jail, and the parent or guardian agree that the child will continue to participate in the HSED program. The child must have passed at least one of the four content areas of the General Educational Development tests.

Children at risk of not graduating from high school are defined as pupils in grades 5 to 12 who are at risk of not graduating from high school because they are dropouts, or are two or more of the following:

1. One or more years behind their age group in the number of credits attained.

2. Two or more years behind their age group in basic skills levels.

3. Habitual truants, as defined in § 118.16 (1) (a).

4. Parents.

5. Adjudicated delinquents

6. Eighth grade pupils whose score in each subject area on the examination administered under § 118.30 (1m) (am) 1 was below the basic level, 8th grade pupils who failed the examination under § 118.30 and 8th grade pupils who failed to be promoted to 9th grade.

Dropout means a child who ceased to

attend school, does not attend public or private school, technical college or home-based private educational program on a full-time basis, has not graduated from high school and does not have an acceptable excuse under §118.15 (1) (b) to (d) or (3).

Participants attending Gateway under a §118.15 contract for the High School Equivalency Program must complete all HSED requirements prior to taking GED tests.

## Voluntary Attendance of Youth Sixteen (16) Years or Older

Any child who is the age of sixteen (16) years or older is eligible to apply to a Gateway postsecondary program if all of the following apply:

- Gateway agrees to admit the individual.

- The individual satisfies the other requirements for admission under s.38.22(1), Technical College Admission Requirements.

- The individual has the written permission of his or her parents or legal guardian.

- The individual will not be attending Gateway during the hours of normal school day established under s.119.18(7) or 120.12(15).

- The attendance is not a fulfillment of the student's compulsory school attendance requirement.

- The student attends at the regular tuition rate charged adult students.

- Individuals taking course(s) solely for Gateway program credit shall pay their own tuition and fees, books, and other associated costs.

## Home Schooled Students

Any pupil who is under a Home School agreement with the Wisconsin Department of Public Instruction and requests educational services from Gateway shall first seek assistance from the public school system. Home schooled students may attend Gateway at the regular tuition rate charged adult students, provided the attendance is outside of their designated home school schedule and is not counted toward fulfillment of their home school attendance or completion requirements.

## Start College Now

Start College Now will allow public high school students the opportunity to take college courses that are not offered at their high school and that satisfy a high school graduation requirements at Wisconsin Technical Colleges under § 38.14 (12). The program formerly known as Youth Options is now known as Start College Now. Students are eligible to participate if:

1. The pupil has completed 10th grade.

2. The pupil is in good academic standing.

3. The pupil notifies the school board of the school district in which the pupil resides of his or her intent to attend a technical college by March 1 if the pupil intends to enroll in the fall semester and by October 1 if the pupil intends to enroll in the spring semester.

4. The pupil is not a child at risk, as defined in § 118.153 (1) (a).

5. The pupil is not eligible under § 118.153 (7t) (c ) to participate in the program under § 38.12

The school board of the school district in which the pupil resides is not responsible for transporting a pupil attending a technical college under this subsection to or from the technical college that the pupil is attending. The school board is required to pay the technical college for the cost of tuition, course fees and books for the approved course(s).

## Adding or Withdrawing from a Program

Students are responsible for keeping demographic and program of study information updated on their records. Students' programs, along with personal information, are listed in My Gateway or Student Planning. It is important to keep this information updated so students receive important program information and notifications.

Students who wish to withdraw from their programs should do so through My Gateway - WebAdvisor/Self Service. Students also have the option to complete a program withdrawal form available at **gtc.edu/forms** and submit the form to any Student Services Center. To add a program, students must complete a program add form available at **gtc.edu/forms** and submit the form to any Student Services Center. Students will be required to complete all coursework outlined on the curriculum sheet that corresponds to the academic year they were accepted into the program.

To encourage academic progress toward graduation, Gateway limits the number of programs students may pursue to three. Students applying to more than three programs, excluding internal and Advanced Technical Certificates, must seek approval from the program dean before the additional application is accepted.

## Active Program Status

Students who are not enrolled for two consecutive academic years and who are not taking college-level courses toward their degree will be deactivated from their program(s). To be reinstated, students must reapply to the program by completing a new Application for Admission at **gtc.edu/apply**. Applicants who are reapplying must meet the program's current admission and graduation requirements. The new date of program admission will be considered the official date of acceptance *Note: Withdrawal from a program does not imply withdrawal from courses. See Student Services staff for course withdrawal information.*

*Note: Students who are actively petitioning in designated programs will not be deactivated.*

## Readmission of Students Activated for Military Service

Students who are forced to withdraw from their educational program due to military deployment shall be readmitted to the program with their original acceptance date.

## High Demand Programs/Petitioning

Some programs have a greater number of students than available core course seats. For such programs, Gateway Technical College utilizes a petition process where a post-admission process is used to select accepted students for upcoming core course seats. As directed by TCS 10, students selected via the petition process are chosen based on Gateway District residency at time of acceptance into their program. First priority is given to in-district residency, then Wisconsin non-district residency, followed by non-Wisconsin residents. In addition to residency, students will also be selected based on date of program acceptance. Applicants who change their minds regarding program enrollment or have their application/program status deactivated and want to return to the program will need to reapply and meet current admission requirements. They will be selected based on the most recent program acceptance date, not the original acceptance date.

The time element prior to selection for and enrollment in core courses varies by program and is not predictable. Further information about specific program petitioning is available at **gtc.edu/petitioning**. Gateway must be informed of all address changes and changes for telephone or cell phone numbers. If the College does not have updated information, the result could be program deactivation or bypassing the student for openings in a program's core courses

## Residency Qualifications

Gateway determines whether students are eligible for in-state tuition and petition selection per Administrative Code TCS 10.03. This policy is applicable to all courses whether credit, non-credit, English Language Learner (ELL) or Adult Basic Education (ABE). Determination of Wisconsin residency is based on where the student permanently resides and holds legal bona fide residence. Students must demonstrate the intent to permanently reside in Wisconsin and may not be charged in-state rates if their purpose of residing in Wisconsin is for educational purposes. A person who enters and remains in the state principally to obtain an education is presumed to continue to reside outside the state and the presumption continues in effect until rebutted by clear and convincing evidence of residence in the state through the Residency Determination process. A visa is a permit granted to persons legally residing outside the United States (U.S.) to enter the U.S. for a specified period of time with the intent of returning to their home country. Therefore, students on visas cannot be considered Wisconsin residents for tuition purposes.

Any person who is a resident of Wisconsin/ the Gateway district at the beginning of any semester for which the person makes application is a resident of the state/Gateway district for admission and fees purposes. Any resident of the state who has maintained a permanent residence

within the district prior to application at Gateway is a Gateway district resident for admission priority. Prior to the beginning of any semester or session for which admission is applied, a person may petition the district admissions office for a reconsideration of a residence determination based on changed circumstances. Upon receipt of such petition, the district official charged with residence determinations shall issue a written decision within 30 days of receipt of the request.

Applicants/students who wish to have their residency status reviewed should complete the Wisconsin/Gateway Technical College District Residency Verification form at **gtc.edu/forms** and supply corresponding, supporting documentations. All residency verifications must be done prior to the start of the semester in which the applicant/student attends. If verification is received after the start of the term, the new residency status will be effective at the start of the next semester.

## Remission of Non-Resident Fees for Out-of-State Residents Including Au Pairs (Out-of-State Fee Waiver)

WTCS administrative code allows for Gateway to remit the out-of-state fees for individuals who are considered out-of-state, who can demonstrate financial need and who demonstrate the ability to benefit from their educational experience. Au pairs are eligible for remission of out-of-state fees for up to six (6) credits or the equivalent. Additional credits/courses beyond those approved for remission are at the out-of-state rate. Remission of non-resident fees is limited and granted to those eligible on a first-come, first-served basis. Remission applications are submitted on an academic year basis. To apply, complete the Remission of Non-Resident Fees application available at **gtc.edu/forms**. Registration will be at the out-of-state rate until remission is approved. Students approved for fee remission are responsible for the payment of any in-state fees (and out-of-state fees, if applicable) that are incurred.

## International Students

Gateway Technical College is authorized to issue I-20s for students attending under F-1 and M-1 visas; however, enrollment of foreign students in the educational programs at Gateway will be based upon space availability unless there is a Contract for Service (C-150) which provides for completely dedicated courses at full cost recovery. Gateway is not authorized to issue I-20s to students for study of the English language or for programs considered high-demand. International students are not considered Wisconsin residents and are required to pay tuition equal to the out-of-state rate.

### Conditions for Admission

- Enrollment in technical diploma or associate degree programs that have no waiting period, waiting list or other restrictions.
- Verification of financial resources covering the cost of education.
- Completion of all necessary International Student Admission requirements.
- If transferring, demonstration of good standing in academics, conduct and have no debt at the sending institution(s).
- Sufficient proficiency in English to enable the student to benefit from instruction. Evidence of English proficiency may be TOEFL or IELTS scores that meet Gateway's minimum requirements.

### Procedure

An international student seeking to be admitted to Gateway Technical College shall:

1. Submit a completed application with application fee
2. Complete International Student admission documents:
   - Declaration of Financial Resources or certification of finances documenting funds to cover education for the length of the program.
   - International Student Questionnaire/Emergency Contact form
   - Transfer Clearance form (if transferring from another U.S. school)
3. TOEFL score of 500+, 180 (CBT) or 64 (IBT) or earned a score of 5 or higher on the IELTS or written documentation that the applicant is from an approved English-speaking country. A list of countries which are excluded from the TOEFL testing can be found at **gtc.edu/internationalstudents**.
4. Submit official evaluation of high school and/or college transcripts. Evaluations must be provided directly from the recognized, educational evaluation service.
5. All first semester students are required to pay an initial down payment of $2400 before/at the date of orientation. This $2400 goes towards your overall semester charge for tuition and fees. The only exceptions are:
   - Students attending under Section 38.14(3) of the Wisconsin Statutes where Gateway has entered into a Contract for Service with a foreign government or business not operating in Wisconsin.
   - Students qualifying as eligible for Non-Resident Fee Remission:
     - Those enrolling under Administrative Bulletin 04-03, Exchange Agreements with Foreign Educational Institutions.
     - Those who meet the requirements to qualify as Needy and Worthy under Administrative Bulletin AB 04-02. An international student who qualifies for Needy and Worthy status will have his/her deposit returned.
6. Upon completion of all above admission requirements, an I-20 will be issued to the student.
7. When the student arrives, he/she will be required to submit a copy of his or her visa, take the placement test, and complete an Agreement of Attendance and Program Completion. An International Student Processing Fee of $75 will be posted to the student's account once their application is complete. The fee is to be paid prior to the start of classes. International students interested in applying for admission should contact the Primary Designated School Official, Director of College Access, Admissions and Testing in Student Services for further information. Additional information and all forms are available at **gtc.edu/internationalstudents.**

*Please note that due to enrollment restrictions, international student applicants should view the list of programs available to them on our website.*

## Reciprocity Agreements with the College of Lake County (CLC) and McHenry Community College (MHCC)

Through an agreement between Gateway Technical College and CLC and MHCC, students may be able to attend approved programs in their neighboring state at the in-state rate. Students participating under the terms of these agreements must be accepted to an associate degree, technical diploma or certificate approved by the receiving college under the agreement. These students are not considered district residents for petition selection purposes. Illinois students interested in this option should contact the appropriate official at the college in their home county. Gateway Technical College district residents should contact the Admissions Office

at Gateway Technical College. Individual courses and transfer programs are not covered by this agreement. For further information regarding our current agreements please visit **gtc.edu/admissions/cooperative-reciprocal-agreements.**

## Reciprocity Agreement with Minnesota

Wisconsin has a reciprocal agreement with Minnesota. Individuals from Minnesota who wish to attend Gateway may do so at in-state tuition rates by completing a Residency Determination Verification form and submitting Minnesota residency verification (same as for Wisconsin). These students are not considered residents for petition selection purposes.

## Academic Planning, Advising and Registration

### Academic Advising

Gateway Technical College offers a staff of highly trained and experienced Academic Advisors in each program area. Academic Advisors are available to provide new and continuing students with information about academic programs, curriculum requirements, transitioning to college, college expectations, college success tools and assistance with course selection. Academic Advisors are the primary contact for new students regarding all things academic planning (creating a plan, registering, adding/dropping courses, transferring to another program or college, withdrawing or any other matter of an academic nature).

We strongly encourage all new students to meet with the Academic Advisor for their program prior to beginning coursework. To a new student, the advisor is the primary source of academic advice, college preparation and assistance in interpreting placement test results, providing an overview of their program and helping complete

an initial course schedule along with an academic plan. To the continuing student, the advisor is able to update students on their progress in their program, review graduation requirements, assist with updating academic plans and provide encouragement, guidance and referrals as needed. Advisors are available by appointment, phone, email or at various walk-in opportunities in the Student Services Center on each campus (Elkhorn, Kenosha and Racine).

### Role of the Student in Advising

It is the responsibility of the student to consult an advisor regarding academic information and concerns that may affect the student's academic progress. While Gateway's advisors are here to guide and assist students towards completion of their program, it is ultimately each student's responsibility to fulfill his/her degree requirements. New and continuing students who have remedial requirements, less than 30 credits in an associate degree or less than 15 credits in a technical diploma or who do not meet the standards for good academic standing should work with their academic advisor. Continuing students with 30 or more credits who are in good academic standing should transition to working with a faculty advisor. Students may set up an appointment with an academic advisor at 1-800-247-7122.

### Role of the Faculty Advisor

Faculty members from each program serve as faculty advisors to continuing students who have completed all remedial requirements and 15 or more credits toward a technical diploma or 30 or more credits toward an associate degree. Faculty advisors are available via email, phone and during faculty office hours throughout the year. Faculty advisors bring a unique wealth of knowledge to share and are eager to help guide students by providing specialized individual assistance specific to each academic program for academic planning, course recommendations, detailed program information as well as general guidance

and support to help continuing students progress towards graduation.

### Contact Your Advisor

Students are able to look up contact information for their academic and faculty advisor through their My Gateway account. This will provide a student with the phone number and email address for their designated advisor. To locate this information:

- Log into My Gateway
- Click on the "My Advisor" tab

## Registration Information

Registration is the process of enrolling in courses. Dates, hours and instructions for registration are available each semester via My Gateway In the Student Resources menu, click Student Services>Advising & Registration through Self-Service. Academic planning guidance and assistance is available through faculty advisors and academic advisors.

- Students must be officially registered to attend class.
- Students must be officially registered in order to receive credit for class(es).

Students are able find out when their specific registration window opens. This is the first day available to register for their next set of courses. Gateway Technical College encourages all students to register as early as possible. Each student is able to find this exact date through My Gateway. To locate this information:

- Log into My Gateway
- In the WebAdvisor and Self-Service Menu, click on Registration and Schedule>When Can I Register?

## Registration Requirements

To complete registration for classes, students must:

- Register via My Gateway or submit a completed registration form to any Student Services Center. Note: Students who are Single-course takers scroll to the bottom of the gtc.edu main page and click the Take A Course link to register. Click the Register Now button to log in and register. If you are new to Gateway, first click the "create your Gateway student account here" link to complete the Create an Account process.
- Make payment or payment arrangements.
- Have met class requisites and be accepted to the program, if applicable.
- Not have an outstanding debt. Students may register with a debt if:
  1) The debt is from the previous semester and is not more $200 OR
  2) The student has a third-party payer authorization in place with the Student Accounts Office that will pay at least 95% of the tuition and fees of the course(s) for which the student is registering AND the student has a payment arrangement in place for the outstanding debt.

*Note: Students who have any outstanding debt will not be able to receive their transcript or diploma*

## Priority Registration

Students who are accepted to a postsecondary program are eligible to register during the priority registration period. A continuing program student is given a priority registration date based upon the number of credits the student has completed. Newly admitted program students may register during New Program Student Registration. Students not accepted into a postsecondary program register during the open registration period, which occurs after the opportunity for all postsecondary program students. Students attending Gateway Technical College under the Start College Now program register during the

open registration period regardless of whether or not they have been accepted into a postsecondary program.

## Service Member Priority Registration

Wis. Stat. §38.12(12) provides that priority registration be granted to eligible service members attending a Wisconsin technical college. Eligible service members include those who have served or who are serving on active duty under honorable conditions. In accordance with the law, Gateway Technical College allows eligible service members (not including dependents) to register one day prior to their standard registration date.

## Prerequisites and Co-requisites

A prerequisite is a required course which must be successfully completed before a student can register for an advanced course. Most courses require a minimum D- grade to be earned in the prerequisite. However, some courses require a higher minimum grade.

Please see course description information for prerequisite and co-requisite requirements. A co-requisite is a class which must be completed prior to or at the same time as the selected course. Students should become familiar with the prerequisite and co-requisite requirements of their program courses. Not following these requirements can result in the need for extra semesters of work to complete graduation requirements.

Credit for Prior Learning may help some students meet required prerequisites and co-requisites. Students who believe they have work experience or training which may qualify for enrollment in an advanced course should discuss the situation with their academic advisor or visit **gtc.edu/cfpl** for more information.

## Electives

Some programs require elective credits for graduation. Electives allow students some flexibility in choosing courses within their program curriculum. Elective courses may be chosen from the wide variety of classes offered each semester. Students in associate degree programs should be sure that their electives are at the associate degree level. Students should check with their faculty advisor or an academic advisor if they need assistance determining the academic level of courses.

## Financial Aid Census Date

The amount of financial aid funding a student is eligible to receive will be based on the fundable number of credits in which the student is enrolled and attending on the Census Date (the 14th calendar day of each semester). After this date:

- Adjustments will not be made for additional enrollment
- Award may be recalculated for classes with no attendance and/or,
- A repayment may be charged for all or a portion of funds received

Gateway highly encourages students to register for all classes for a semester prior to the Census Date.

## No-shows

If a student does not attend class, they are not eligible to receive financial aid for the class. If an instructor drops a student from the class they are teaching due to the student being a 'no-show' or having poor attendance, there is no refund of tuition and fees; however, the Financial Aid office is required to adjust financial aid based on actual credits.

## Changes in Registration

In accordance with add and drop timelines, changes to a schedule may be made via My Gateway or in person at any Student Services Center. If using My Gateway, in the WebAdvisor and Self-service menu, click Registration and Schedule>My Class Schedule. Review your schedule to verify that your transaction was submitted and your schedule reflects the change. A student wanting a third party to complete any transaction on their behalf must provide the third party with the appropriate signed document. The third party must provide photo identification for himself/herself, along with their phone number, relationship to the student and a signature.

## Adding a Class

A student may add a class through the third class hour of the course without instructor approval, provided the class capacity has not been reached and all registration requirements have been met. Accelerated, internet and blended classes require instructor approval when adding a class on or after the start date. After the third class hour of the course has elapsed, the student must obtain a Petition to Register Late Form available at **gtc.edu/forms** or in any Student Services Center. An email generated by the student from his/her Gateway email account and instructor response with approval may be used in lieu of the petition form.

After obtaining the signature/approval of the instructor, the student must officially add the class in any Student Services Center. Class capacity may not be exceeded. The student is responsible for any and all missed coursework, materials and assignments. Refunds for students who enter a class late and subsequently drop will be calculated based upon the start date of the class, not the date the student registered for the class. A student who does not register for a class is not eligible to receive credit for the class. Financial aid awards

will not be adjusted if the class is added after the Census date.

*Students may not attend a class unless they are officially registered for the course.*

## Waitlists

Waitlists are offered for the majority of post-secondary course sections. If a course section is full, students may join a waitlist via My Gateway or in-person at any Student Services Center. The path to waitlist via My Gateway is in the WebAdvisor and Self-service menu: Click Registration and Schedule>Plan and Schedule During the registration process you may join the waitlist for the full class.

Waitlists - Seat Available Notification/Registration Requirements
1) If a seat becomes available in a class for which a student is waitlisted, a message telling the student that they have permission to register will be sent to the student's Gateway email account.
2) The seat will be held for the student until 11:30 p.m. the next day.
3) If the student does not register for the class within that time frame, the permission to register will expire and the seat will automatically be offered to the next eligible student.
4) When a student with a Permission to Register is registering for an available seat in a waitlisted class, all standard registration procedures apply, e.g. requisites must be met, capacity limits must be observed, late registration rules still apply, etc.

Waitlist Process Notes
1) Students must meet normal registration requirements in order to join a waitlist, e.g. have met requisites, have instructor consent, etc.
2) A student already registered for a course may not be added to a waitlist for an additional

section, i.e. if already registered for a 801-136 class, a student cannot go on a waitlist for another 801-136 section.

3) A student may only waitlist for one section of a course.

Waitlist Closing Info

1) Waitlists close (become inactive) at 11:55 p.m. the night before the first day of the class. The last "Permission(s) to Register" will be issued at 11:50 p.m. that night and will expire at 11:30 p.m. the first day of class if the student does not register.

2) See the Adding a Class section above for information about registering for a class that has started.

## Dropping a Class

A drop is student-initiated. A student may drop a class without a grade up until 20% of the class meeting times have elapsed. In order to drop a class, a student must complete a drop via My Gateway or submit a completed Drop Form in any Student Services Center. The drop is not complete until My Gateway processes the drop (confirmed by viewing "My Class Schedule") or the Drop Form is received and processed by the Student Services Center.

Nonattendance or notifying the instructor that the student will not be attending does NOT constitute a drop. When a student registers for a class, the student owes the corresponding tuition and fees. Students who plan to drop a class should do so immediately. A single day can make a significant difference in the amount of the refund. Drop deadlines are printed on a student's class schedule and are strictly enforced. For information regarding refunds, please see "Refund Policy" in the "Paying for College" section of this handbook. A student who is a financial aid recipient should be aware that dropping a class may affect his or her financial aid award and account balance with the college. If a class is dropped, the financial aid award will be recalculated based on the remaining eligible credits. Dropped classes will be monitored

throughout the entire semester. Dropped classes are considered course attempts and are used to calculate satisfactory academic progress for financial aid purposes. If students have questions on how dropping a class may affect their financial aid award, they should contact a Student Finance Specialist prior to dropping the class.

Refunds to employers, agencies or institutions for students dropping contract for service classes are governed by the terms of the contract. Contact the Business and Workforce Solutions department for further information about employer contracts. Contact the College Access department for further information regarding high school contracts

## Withdrawing from a Class

Withdrawals occur after the refund period; there are no refunds for withdrawn classes. A student may withdraw from a course without an academic penalty up until 80% of the class time has elapsed. A student withdraws from classes by completing a Withdrawal Form for each class and submitting it in any Student Services Center. A grade of 'W' will be recorded on the student academic record. A student who stops attending a class after the refund period without withdrawing receives an F grade. Withdrawing from a class(es) may affect the student's financial aid award. Withdrawn classes are considered course attempts and are used to calculate satisfactory academic progress for financial aid purposes.

*Note: Withdrawal from classes does not imply withdrawal from the academic program. To withdraw from a program, login to My Gateway. In the WebAdvisor & Self-service menu, click Academics>Withdraw from a Program. A student may also submit a Program Withdrawal Form (found at **gtc.edu/forms**) to a Student Services Center.*

## Class Cancellations

Gateway reserves the right to cancel any scheduled class. Refunds are issued for cancelled

classes. The student is encouraged to work with their academic advisor or faculty advisor in making alternative class selections.

## Combining Class Sections

Gateway reserves the right to combine class sections as a result of insufficient enrollments. If this occurs, every effort will be made to notify the student prior to the start of the class. The student's class schedule can be viewed using My Gateway. In the WebAdvisor and Self-service menu, click Registration and Schedule>My Class Schedule.

## Auditing a Course

At times, a student may wish to attend a class without receiving a grade or credit. To do so, the student must register to audit the course. The tuition and fees are the same, whether the student is auditing the course or taking it for credit. (Information regarding the fee waiver for senior citizens auditing postsecondary courses follows.) A student must officially change his or her audit status within the first 20% of class. At the completion of the course, the student will receive a grade of AU (audit). A student who is auditing a course may not change his or her enrollment in the class to credit seeking or vice versa after the first 20% of the class has passed. Courses that are graded on a Pass/Fail basis only may not be audited.

## Senior Citizen Audits of Postsecondary Courses

Wisconsin residents 60 years of age or older on the start date of the class may audit an associate degree or technical diploma course without paying the tuition portion of the class fee, provided space is available. This is a significantly reduced rate. Only non-tuition fees, such as material, activity, and other miscellaneous fees will be charged. Forms for requesting a senior citizen audit are available in any Student Services Center. If a senior citizen wants credit for the course, regular

registration procedures and charges apply. The regular audit rules apply to changing status from credit-seeking to audit and vice versa.

## Senior Citizens and ACE Classes

Wisconsin citizens 62 years of age or older on the start date of the class may take Adult Continuing Education (ACE) classes at a significantly reduced rate. A student in this category is not charged tuition for the class, only non-tuition fees, such as material, activity and other miscellaneous fees will be charged. Courses with special tuition charges will be charged at those alternative tuition rates (e.g. traffic safety or firefighter classes). Please contact Student Services for information.

## Student Enrollment Status

Student enrollment status is determined by the number of credit hours for which a student is registered. A full-time student is defined as one who is enrolled in 12 or more credit hours in a semester. A part-time student is defined as one who is enrolled in less than 12 credit hours in a semester. Enrollment verifications reflect the student's enrollment status at the time the verification is completed

## Paying for College

Gateway Technical College believes that the opportunity for a college education should be within the reach of all interested individuals. To that end, Gateway offers a variety of payment options. Payment options include cash, check, credit card (MasterCard, Visa), financial aid, third-party authorizations, Veteran Education Benefits, scholarships and a Gateway student payment plan.

A formal payment arrangement must be selected by 11:59 p.m. on the day of registration to avoid being removed from your class(es). If the class you are registering for has already started and you are using the late registration process, you will remain

registered and be responsible for all charges.

Gateway has formal payment arrangements that will allow you to remain registered in your classes. Payment arrangements include:

- Gateway Student Payment Plan - no fee and no down payment required
- Awarded Financial Aid
- 3rd party funding source, such as employer or agency authorization
- Veteran Education Benefits
- Scholarships
- Pay in full

For additional information regarding Paying for College, including topics such as tuition, Title IV refunds, see the 2019-2020 Gateway Student Handbook or visit the relevant Gateway website pages, **gtc.edu/paying-college**.

## Financial Aid and Eligibility

Financial aid is financial assistance to help students meet their educational costs. The Gateway Technical College Financial Aid Office administers a comprehensive program of federal, state and college grants, work-study and loan programs to provide assistance to students in funding their education. Gateway uses the Free Application for Federal Student Aid (FAFSA) to determine if a student is eligible for federal grants, student and parent loans, work-study and state grants. The FAFSA is available at **fafsa.ed.gov**.

Financial aid is made available to students who are eligible according to specific state and federal regulations. All eligible students must:

- Be accepted to an aid-eligible program before an award can be determined
- Be a U.S. citizen, an eligible non-citizen or a permanent resident of the United States

- Demonstrate financial need as determined by Gateway's Financial Aid Office through the Financial Aid Application (FAFSA) process
- Not be in default on any educational loan or demonstrate an unwillingness to repay any educational loan and/or owe any overpayment to Gateway Technical College or the U.S. Department of Education
- Be in compliance with Selective Service regulations
- Be enrolled at least half-time status to receive most types of financial aid
- Maintain Financial Aid Satisfactory Academic Progress (SAP) as defined by Gateway's Financial Aid Office
- Must participate in Loan Entrance/Exit Counseling if award includes loan
- Students must have a high school credential (e.g. high school diploma, GED, HSED)
- Only receive aid at one college per semester

There are three major types of aid available to Gateway students. They include:

- Grants (do not have to be repaid unless a student stops attending during the term. See information on Return of Title IV funds)
- Student Loans (must be repaid)
- Student Employment (students who work and earn money to help pay for college)

Information about the specific types of grants, loans and student employment available may be obtained at **gtc.edu/financial-aid**. Financial aid information may be subject to change at any time due to change in federal, state or sponsoring agency regulations.

## Financial Aid Communications

Communication in regards to the processing of the Free Application for Federal Student Aid (FAFSA) and any resulting financial aid award/eligibility information will be sent to the student's Gateway Technical College student email and located in the "Required Documents" section of Self-Service. It is the responsibility of every student applying for or receiving aid to check both of these locations on a weekly basis throughout the academic year to ensure that all relevant financial aid requirements and deadlines are met in a timely manner. This includes periods when school is not in session as changes to student eligibility may occur during these times, such as when final grades are issued after the end of the semester. Failure to check student email and the "Required Documents" section of Self-Service on a regular basis could result in the delayed receipt of important information regarding financial aid requirements and the loss of financial aid eligibility.

If a student is awarded funds through the Federal Student Aid program at Gateway Technical College, an award letter will be made available in the "Award Letter" section of Self-Service. Students may view or print this letter at any time for their records. If a student requires assistance viewing and/or printing their award letter, they may visit the nearest Student Services location for assistance. The Financial Aid Office does not print or mail award letters to students, parents or third parties.

## Census Date (Date of Record)

In accordance with federal regulations, the Financial Aid Office will recalculate federal, state and institutional awards based on the enrollment status as of the published census date. The census date is set by the college and is the 14th calendar day of each semester. Official census dates for the current academic year can be found at **gtc.edu/important-dates**. On this day, the college

takes a "snapshot" of all students' enrollment which becomes the official enrollment that is used for both state reporting and financial aid eligibility.

After this date:

- Adjustments will not be made for additional enrollment.
- Awards may be recalculated or cancelled for courses with nonattendance.
- If classes are cancelled or if a course is dropped that has not started, students may owe repayment of aid which was not earned.
- Students enrolled only in remedial/developmental coursework are not eligible to receive aid.
- Students must be enrolled and attending at least 6 credits in order for their student loans and state grants to be disbursed.

Classes that students are enrolled in and attending as of census date will determine the amount of financial aid they receive. If a student is enrolled and attending less than full-time as of the census date, awarded aid will likely be less than what was reported in an initial award letter or email. This difference is because students are initially awarded based on the expectation of full-time enrollment. Financial aid is then adjusted after the census date to reflect students' actual enrollment. Gateway highly encourages students to register for all courses (including late classes) for a semester prior to the census date.

## Consortium Agreements

Consortium agreements are written agreements between two or more eligible schools. If a student is taking classes at Gateway Technical College (as the HOME school) and would like to take a class or two at a different school (as the VISITING school), their financial aid can potentially be adjusted to

include the credits being taken at the VISITING school. For more information regarding Consortium Agreements, please visit: **gtc.edu/student-services/financial-aid/consortium-agreements**.

To request a Consortium Agreement Form or more information, please use your Gateway student account to email the financial aid office at: **financialaidoffice@gtc.edu.**

## Financial Aid Satisfactory Academic Progress (SAP) Policy

The Federal Student Aid program requires that schools maintain Satisfactory Academic Progress policies in order to ensure that students are progressing successfully through their programs as a condition of receiving financial aid. Students' complete Gateway Technical College academic records are used to determine if each student meets the Satisfactory Academic Progress criteria as outlined in this document. All credits attempted at or transferred to Gateway Technical College, including those attempted without the use of financial aid, are included.

Each student's financial aid status is calculated upon receipt of their Free Application for Federal Student Aid (FAFSA), as well as at the end of each semester if a student has submitted a FAFSA and attempted coursework. Students that have not met the Satisfactory Academic Progress criteria as outlined in this document are notified via their student email account and Self-Service.

For complete website information related to Gateway Technical College's Satisfactory Academic Progress Policy, please visit **gtc.edu/financial-aid**. This policy is subject to change at any time should Department of Education Federal regulations require it.

## Satisfactory Academic Progress Criteria

To maintain financial aid eligibility, students must meet all Satisfactory Academic Progress criteria as outlined below:

- Minimum 2.0 term Grade Point Average (GPA)
- Minimum 67% term completion rate (also known as Pace) - 67% = credits completed divided by credits attempted
- Minimum 2.0 cumulative Grade Point Average (GPA) - Cumulative GPA is calculated on all credits attempted at Gateway
- Minimum 67% cumulative completion rate (all credits completed at Gateway and transferred to Gateway divided by total credits attempted)

Unlike a student's academic GPA and/or completion rate, all attempted coursework is used in calculations involving Satisfactory Academic Progress. This means that courses with a final grade of F, U, W, WF, or WP, as well as a final status of NG (no grade) are included in these calculations as non-completions with zero grade points (this is the same as receiving a final grade of "F" in a course). All Repeats (R) are included as the final grade or status that was earned for each attempt. Incompletes (I) are excluded from Satisfactory Academic Progress calculations until such a time that a final grade is issued. Once a final grade is issued, the results will be included in the cumulative results of any and all subsequent Satisfactory Academic Progress calculations. The academic GPA and/or completion rate shown on WebAdvisor may not match your GPA and/or completion rate as calculated for Satisfactory Academic Progress purposes due to these differences. Remedial/Developmental courses are also included in SAP calculations.

## Financial Aid Statuses

### Financial Aid Warning (FAW)

Students failing to meet the Satisfactory Academic Progress criteria listed above will automatically be placed in Financial Aid Warning status. Students in Financial Aid Warning status remain eligible to receive financial aid. Students in Financial Aid Warning status are not restricted in the number of credits they may take, but must meet all four Satisfactory Academic Progress criteria as outlined above in all future terms to avoid being placed in Suspension – Need Appeal (SNA) status.

### Suspension—Need Appeal (SNA)

Students in Financial Aid Warning status who fail to meet all Satisfactory Academic Progress criteria will be placed in Suspension – Need Appeal (SNA) status. Students in Suspension – Need Appeal status may file a SAP Appeal/Plan and appeal to have their aid eligibility reinstated. Students choosing not to file a SAP Appeal/Plan must meet all Satisfactory Academic Standing criteria listed in this document in order to be eligible to receive any further financial aid.

### Approved Appeal/Plan (AP)

Students who submit the SAP Appeal/Plan and are approved must follow the terms of their approved SAP Appeal/Plan. This would include:

- Achieving a minimum 2.0 term Grade Point Average (GPA) in all future terms
- Achieving a minimum 67% term completion rate (also known as Pace) in all future terms - 67% = credits completed divided by credits attempted
- Taking only courses required to complete the current active program listed on the SAP Appeal/ Plan form
- Any and all other criteria as outlined on the SAP Appeal/Plan Form

Students are not allowed to appeal a Financial Aid

Suspension more than once. Students in Approved Appeal/Plan status are strongly encouraged to meet with their program advisor to ensure that they are only taking required coursework. Students in Approved Appeal/Plan status that do not meet all of the criteria outlined above will be placed in Financial Aid Suspension (FAS) status.

### Financial Aid Suspension (FAS)

Students are placed into Financial Aid Suspension (FAS) status if:

- The student has completed a SAP Appeal/ Plan and it has been denied
- The student has had his or her SAP Appeal/ Plan approved, but did not meet the terms specified by the approved SAP Appeal/Plan
- They have exceeded the maximum duration of financial aid eligibility (150% Rule) as outlined below

Students in the Financial Aid Suspension (FAS) status are not eligible to receive financial aid and are not eligible to appeal. Students in Financial Aid Suspension (FAS) status may regain financial aid eligibility if they complete financial aid eligible coursework with alternate funding sources and meet all Satisfactory Academic Progress criteria. Students that meet this criteria will be sent the SAP Reinstatement Form via student email and will be eligible to receive aid once the form is processed by the Financial Aid Office. Students that have had their financial aid eligibility reinstated as a result of the SAP Reinstatement Form being processed and do not meet all Satisfactory Academic Progress criteria in any subsequent term will immediately be placed back in Financial Aid Suspension (FAS) status.

Students exceeding the maximum duration of financial aid eligibility (150% Rule) as outlined below cannot regain financial aid eligibility regardless of academic performance.

## Duration of Financial Aid Eligibility - Meeting the 150% Rule (M150%)

Students that can no longer graduate by the time they have attempted 150% of the published credits for their current active program, as listed on their program requirement sheet, will immediately become ineligible for financial aid and will be placed in Financial Aid Suspension (FAS) status.

All credits that a student has transferred to Gateway Technical College, as well all credits attempted at Gateway Technical College count toward the 150%. All attempted credits are included in this calculation regardless of:

- Program status
- Program(s) being pursued
- Financial Aid received/not received
- Length of time since the credits were attempted

The maximum duration of financial aid eligibility is calculated by taking the number of credits required to complete your current active program requiring the most credits and multiplying by 150% (1.5). For example, a program requiring 70 credits to complete would have a maximum duration of eligibility totaling 105 credits. This is because 70 Credits x 150% (1.5) = A maximum of 105 credits.

The maximum duration of eligibility for students active in more than one program is calculated using the active program requiring the most credits to complete. It is not calculated on the basis of multiple programs.

Students who meet or exceed the M150% limit for a certificate or technical program who are subsequently accepted into an associate program must notify the Financial Aid Office to have financial aid eligibility reassessed under the SAP policy. Students that remain in the M150% status as of the census date for a given semester are ineligible to receive aid for that semester.

| Required credit for program | 150 percent of that program's credit |
|---|---|
| 70 | 105 |
| 69 | 104 |
| 68 | 102 |
| 67 | 101 |
| 66 | 99 |
| 64 | 96 |
| 61 | 92 |
| 44 | 66 |
| 33 | 50 |
| 32 | 48 |
| 28 | 42 |
| 27 | 41 |
| 17 | 26 |

Students exceeding the allowable 150% of their current program will be placed in Financial Aid Suspension (FAS) status at the end of the semester in which the 150% limit is reached. The 150% status cannot be appealed. At this time, all future aid will be cancelled at Gateway Technical College. Students may be able to still receive financial aid at other institutions depending on their SAP policy. Students on Financial Aid Suspension are still allowed to take classes at Gateway Technical College by paying for the classes with alternative resources (payment plan, scholarships, Veterans Affairs benefits, etc.).

## Financial Aid Disbursement and Eligibility Policy

If a student receives federal and/or state funding, his/her funds will be applied to his/her student account. Students are able to charge certain expenses to this account. Expenses include tuition, fees, and bookstore charges. After courses begin and a student's attendance is verified on the census date, Gateway Technical College will apply a student's financial aid award to their account. If a student is awarded aid in excess of the balance on their student account, a refund will be issued to the student (for more information

please see Gateway Bank Mobile VIBE Card section below). Financial aid awards are based on enrollment levels. Up-to-date award information may be viewed on Self-Service. Please check the important dates calendar online for disbursement date information: gtc.edu/important-dates.

Gateway Technical College makes multiple disbursements of student loans each semester. If students are receiving loan funds, half of their loan for each eligible semester will be applied to their student account on the first disbursement date, and the second half will be applied to their student account on the second disbursement date. This does not apply to grant disbursements. Students must be enrolled in and attending at least 6 credits for each loan disbursement to be made.

Students due a federal loan refund will follow one of the following scenarios:

- If the first disbursement of the loan funds is enough to cover all remaining charges at Gateway and a refundable balance exists after the first disbursement is made, students will receive a portion of their refund on the first disbursement date and then a second and final portion of the refund on the second disbursement date.

OR

- If the first disbursement of loan funds was not enough to cover all remaining charges at Gateway, students will receive a refund on the second disbursement date.

The dollar amount and timing of refunds are dictated by each student's particular balance due and financial aid award. Students should review the award amounts provided on Self-Service and compare them to the charges on their account to determine the timing and dollar amounts of any refunds.

As multiple loan disbursements are a federal requirement, no exceptions can be made to the timing of disbursements for any reason.

Please view the Important Dates section to view disbursement dates for each semester. Students must be enrolled in and attending at least 6 credits for each loan disbursement to be made.

## Grants—Eligibility

### Federal Pell Grant

Students must be enrolled in a minimum of one (1) undergraduate level credit in order to be eligible for the Federal Pell Grant. Depending on a student's Expected Family Contribution (EFC), students may not be eligible for the Pell Grant. Please check with a Student Finance Specialist for more information. Student awards are initially based on full-time enrollment (12 credits each term) for the academic year. The amount of Federal Pell Grant a student receives is based on the student's actual enrollment status at the census date. Due to this, after the census date, awards are recalculated to reflect student's actual enrollment status. Pell eligibility is based on enrollment, Estimated Family Contribution (EFC) and/or Cost of Attendance (COA).

### Federal Work-Study

Federal Work-Study provides part-time jobs for Gateway Technical College students who have been awarded Federal Student Aid and have remaining unmet financial need, allowing them to earn money to help pay education expenses. The program encourages community service work and work related to the student's course of study (if possible).

To be eligible to participate in the Federal Work-Study program, students must:

- Apply for and be awarded financial aid (completed a FAFSA)

- Be registered and enrolled in classes

- Have a remaining unmet need

Work-Study earnings are paid at a wage of $12

per hour and are based on the number of hours worked. Total monies earned cannot exceed the amount stated on the student's Letter of Employment.

## State Grants

Students must be enrolled in a minimum of six (6) credits as of the census date to be eligible for state grants. Due to limited state funds it is recommended that students apply for financial aid before April 1 for maximum eligibility.

## Loans—Eligibility

### Federal Student Loans

Students must be enrolled in a minimum of six (6) credits at the time of disbursement to be eligible for student loans.

Students who have not previously received a loan from Gateway Technical College and are requesting a loan must complete Direct Loan Entrance Counseling and sign a Direct Loan Master Promissory Note (MPN). If you do not complete Direct Loan Entrance Counseling and sign a Direct Loan Master Promissory Note, your loan funds will not be applied to your account.

Students may complete the Federal Direct Loan Entrance Counseling and sign a Direct Loan Master Promissory Note on the Department of Education website at **studentloans.gov**.

Students requesting a loan disbursement from a previous term will undergo a review of loan requirements by the financial aid office in order to verify funding eligibility. Loans from a prior award year will not be considered for disbursement.

### Federal Parent PLUS Loans

Dependent students must be enrolled in a minimum of six (6) credits at the time of disbursement.

Eligibility for federal financial aid must first be determined for dependent students before consideration of Parent PLUS loans. Students may complete a FAFSA at **fafsa.gov**. Parent and dependent student must be U.S. citizens or eligible noncitizens and cannot be in default or owe an overpayment on federal grants. Parent credit history will be checked. If a PLUS loan is denied, students may be considered for additional unsubsidized loans.

Please note, any eligible Direct Parent PLUS Loan amounts in excess of tuition, fees and books will be refunded to a parent through the student's Gateway BankMobile VIBE Card. Students and parents will be required to sign a Parent PLUS Excess Loan Refund Authorization Form. This form will be emailed to the student's Gateway email account when required. If a parent has questions regarding the Parent PLUS Excess Loan Refund Authorization Form, they can contact the Financial Aid Office.

If a borrowing parent of a PLUS Loan refuses to sign the Parent PLUS Excess Loan Refund Authorization Form, accommodations will be made for the parent to receive the funding via check. This request will need to be made in writing and submitted to the Gateway Technical College Financial Aid Office.

### Private Loans

Student must be enrolled in a minimum of one (1) credit at the time of disbursement. Any other requirements set by the private loan originator must also be met in order to receive a disbursement.

Eligibility for federal financial aid must first be determined by completing a FAFSA at **fafsa.gov** before consideration of private loans will be made. Gateway reserves the right to deny certification of private loans.

## Purchase or Rental of Textbooks Using Financial Aid Funds

Gateway Technical College believes that being prepared for classes is essential. To ensure students are ready, students who have a financial aid award in place on Self-Service may use their funds to purchase or rent their textbooks and supplies from our partner, Follett Bookstores.

The amount of funds a student will have available to use at the bookstore each semester will be the difference between what a student has been awarded for financial aid minus the cost of their tuition.

- Bookstore authorization dates can be referenced on the Important Dates page of the Gateway Technical College Financial Aid website.
- Funds will be available 24 hours after your financial aid award has been posted to Self-Service and the student is enrolled in courses.
- To purchase or rent in person, bring a photo ID and a copy of your schedule to the bookstore on campus during the bookstore authorization dates. Let them know you would like to charge your purchase to your financial aid when you check out.
- To purchase or rent online, visit **eFollett.com** during the bookstore authorization dates and select the items to be purchased and/or rented. Proceed to the Checkout area and enter all the required information. You will be taken to the Payment Methods screen and here is where to indicate that you would like to pay using Financial Aid.

Students who are Pell Grant-eligible may wish to purchase their books from an alternate source. To do this, the student has the right to request an early disbursement of a portion of their Pell Grant

- The maximum early disbursement allowed will be calculated by subtracting the cost of tuition and fees from the amount of Pell Grant awarded for that term as of the date the request is being reviewed. If the cost of tuition and fees is more than the award an early disbursement will not be granted.
- The early disbursement will also be limited to the book component of the student's cost of attendance as determined by Gateway's Financial Aid office.
- If this early disbursement is granted, the student will not have any funds available through Follett Bookstore for that term. If a student already purchased books using their financial aid at Follett, they are no longer eligible for the early disbursement.
- A student may request the early disbursement on a per-term basis by contacting a Student Finance Specialist and asking for an Early Pell Disbursement form. The form must be completed and returned to a Student Finance Specialist at Gateway by the first day of the term that the disbursement is being requested.

## Gateway Bank Mobile VIBE Card

All eligible financial aid students will have the option to receive a Gateway Bank Mobile VIBE Card. Financial aid disbursements are sent electronically to the Gateway Bank Mobile VIBE Card by the end of the day on the published refund date and processed according to the choice indicated by the student. You will receive a green envelope with a personal code and instruction on how to activate your card. When the student activates the card successfully, the student may choose to have funds applied directly to the card or have funds electronically transferred to a bank account designated by the student.

Go to **refundselection.com** to select how you want to receive your money. This card is good for

five years and it is the responsibility of the student to retain this card. The card will be mailed to your address on file at Gateway Technical College once requested. If you lose your card, you will be required to pay a fee when the replacement card is requested.

For more details on the BankMobile VIBE card, visit: **gtc.edu/student-services/financial-aid/ disbursement-bankmobile-vibe-card-account**. If you have questions, or need help ordering your replacement card, contact Student Services at 1-800-247-7122 or sscontactcenter@gtc.edu.

## Drops with a 100 Percent Refund

If a class is taken off your schedule and you are not charged for the class, your financial aid will be recalculated with the remaining eligible credits on your schedule. Dropped classes will be monitored throughout the entire semester.

## No-Shows

If you never attend class, you are not eligible to receive financial aid for the class. In a situation where an instructor drops a student from the class they are teaching due to the student being a "no-show," there is no refund on tuition; however, Financial Aid is required to adjust aid based on actual attended credits.

If you intend to drop a course, you must drop the course via Self-Service or submit a class add/ drop form in any Students Services Center so that you can be officially dropped from the class. Do not simply stop attending class.

## Return of Federal Financial Aid Funds

The Return of Title IV Federal Funds Policy (R2T4) applies to students who have received federal financial aid assistance and have officially or unofficially withdrawn from Gateway Technical

College. Federal financial aid assistance includes Pell Grants, Supplemental Education Opportunity Grant (SEOG), Direct Student Loans (subsidized or unsubsidized) and PLUS Loans for parents. The official withdrawal date is defined as the actual date the student begins the College's withdrawal process. The student's last date of academically related activity is used for unofficial withdrawals.

The amount of the federal financial assistance that a student earns is determined on a pro-rata basis. Once the student has completed sixty percent (60%) of the term, all financial aid is considered to be earned. Please contact the Financial Aid Office for the 60% refund dates.

If a student withdraws from school before 60% of the term has been completed or does not officially withdraw and receives all failing grades for the term, the Financial Aid Office will calculate the amount of unearned financial aid and return the funds in the following refund distribution order: Unsubsidized Direct Loan, Subsidized Direct Loan, Direct PLUS Loan, Federal Pell Grant, Federal Supplemental Education Opportunity Grant and other Title IV assistance programs.

If a student receives all "F" grades for a term, they will be considered an unofficial withdrawal. If a student receives all "F" grades for a term but attended at least one class the entire term and "earned" the grade of "F", the student will not be considered an unofficial withdrawal and no aid will be returned. If the student received financial aid and failed to attend classes, they are considered a "no show" and have not established eligibility for any financial aid. No shows must repay in full any funds received.

Gateway Technical College must return the Title IV funds to the programs from which they received them during the period of payment or period of enrollment, as applicable, up to the net amount disbursed from each source.

The student will be billed for the funds that Gateway Technical College is required to repay.

Consult with the Financial Aid Office prior to any withdrawal to discuss your situation or if you have any questions regarding your financial aid. Students who want to dispute an amount should address all concerns in writing to: Director of Financial Aid, Gateway Technical College, 3520 30th Ave, Kenosha, WI 53144.

*For more information on Financial Aid and Title IV funds, please consult the student handbook or Gateway's Financial Aid webpage.*

## Gateway Foundation Scholarships

Students can help keep their education more affordable by applying for a Gateway Foundation Scholarship. Annually, the Gateway Foundation awards scholarships to eligible students ranging from $300 to $1,000 or more. During the continuing student scholarship application period, students are encouraged to go to the Foundation Web page and click on the link for "Scholarship Application." To go to the Gateway Foundation online application, visit **gtc.edu/ foundationscholarships**. The application period will open at the end of August and close in October.

Established in 1977, Gateway Technical College Foundation supports the mission of the College by raising community awareness and financial resources, broadening its base of support and providing programs such as scholarships, grants and funds for educational growth. The Foundation will enhance the College's tradition of excellence by being responsive to its needs and strengthening the vitality and well-being of the diverse communities it serves.

As one of its activities, the Foundation specifically raises funds to provide assistance to Gateway students who wish to enhance their lives through education and training. Annually, Gateway Technical College Foundation, Inc. awards

scholarships and grants to students. These awards are made possible through the generosity of individuals (including Gateway alumni and staff), businesses and organizations in southeast Wisconsin who recognize the need to assist in providing funds for students eager to embark on the path to their future. To learn more about the Foundation, please visit **gtc.edu/foundation**.

## Veterans Education Benefits

Gateway Technical College is proud to offer a wide variety of benefits and support services to help veterans, active service members and their spouses & dependents reach their educational goals. Gateway is approved for Federal and State VA Education Benefits, and has experts available on each campus to assist students through the process of applying for those benefits at Gateway. To schedule an appointment with a Student Finance Specialist, please call: 1-800-247-7122, email: **sscontactcenter@gtc.edu**, or visit one of our convenient Student Services locations.

*For more information about applying for Veterans Education Benefits at Gateway Technical College, please visit gtc.edu/va.*

## Federal VA Education Benefits - Satisfactory Academic Progress Policy

Students receiving the Federal VA Education Benefits listed below are required to maintain a minimum 2.0 term Grade Point Average (GPA) and a minimum term completion rate of 67%. Failure to meet the Satisfactory Academic Progress Criteria may result in VA benefits being suspended.

- Post 9/11 GI Bill ®* (Chapter 33)
- Montgomery GI Bill - Active Duty (Chapter 30)
- Montgomery GI Bill - Selected Reserve (Chapter 1606)
- VA Vocational Rehabilitation (Chapter 31)

- Dependents Educational Assistance (Chapter 35)
- Fry Scholarship

*GI Bill ® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by the VA is available at the official U.S. government website at **benefits.va.gov/gibill.***

For more information regarding this policy, please visit **gtc.edu/paying-college/additional-information/veteran-education-benefits/satisfactory-academic-progress-policy-federal-va-education-benefits**.

## Wisconsin GI Bill Tuition Remission Program

The Wisconsin G.I. Bill (WI GI Bill) provides a full waiver ("remission") of tuition and material fees for eligible veterans, spouses or dependents for up to eight full-time semesters or 128 credits at any University of Wisconsin System (UWS) or Wisconsin Technical College System (WTCS) institution, whichever is longer.

The WI GI Bill waives program and material fees. The student is responsible for any remaining balance on their account after the WI GI Bill is applied, such as bookstore charges, and any other fees associated with the course (ex. online fees, activity fees, etc.).

WI GI Bill benefits will not be applied to the students account until Gateway Technical College receives approval from the WDVA regarding a student's eligibility along with all required supplemental documentation. Additional information regarding the WI GI Bill benefit can be found at **dva.state.wi.us**.

### WI GI Bill 2.0 Cumulative GPA

### Requirement

Students using the Wisconsin GI Bill are required to maintain a minimum 2.0 cumulative GPA in order to continue receiving benefits. If the cumulative GPA falls below 2.0 at the end of the term, the student may still enroll the following term; however, the student will not be able to use their benefit at this time. To regain eligibility, the student must achieve a cumulative GPA of 2.0 or higher and then complete a VA Education Benefit Request Form for the following term for certification to be reviewed

### Wisconsin Veterans Education Grant Program (VetEd)

The Veterans Education Grant Program provides a reimbursement grant for the tuition and fees following successful course completion at Gateway Technical College. Reimbursement will be reduced to the extent that tuition and fees have already been paid by other grants, scholarships and remissions provided for the payment of tuition and fees, including federal Post 9/11 GI Bill®* (Chapter 33) benefits. The VetEd application (WDVA form 2200) must be submitted to Gateway Technical College no later than 60 days after the start of the course, term or semester for which reimbursement is being sought, or the grant will be denied.

*GI Bill ® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by the VA is available at the official U.S. government website at **benefits.va.gov/gibill.***

### National Guard Tuition Grant (NGTG)

The National Guard Tuition Grant provides reimbursement of eligible tuition charges. It does not cover any segregated fees, bookstore purchases and any other fees or costs added to the student's account.

Students are required to submit their Wisconsin

National Guard Tuition Grant Application to Gateway no later than 90 days after completion of a course or term, whichever occurs first. For more information and to download the application (DMA Form 189-E), go to: **dma.wi.gov/DMA/support/education**.

### WDVA Retraining Grant

This grant is for recently unemployed or underemployed veterans who demonstrate a financial need while being retrained for employment. The program must be completed within two years. This is a grant, not a loan, and does not have to be repaid. The applicant may not receive a retraining grant and another WDVA education grant for the same period.

- The maximum grant is $3,000 per year, for a maximum of two years.
- Complete eligibility requirements and application forms for the WDVA benefits are available through the students local County Veterans Service Officer.

For more information regarding this program, go to: **dva.state.wi.us/Pages/educationEmployment/Retraining-Grants-.aspx**.

## Payment Arrangements

As a student, you may use one of the following formal payment arrangements to pay for your tuition/fee charges. A formal payment arrangement must be selected by 11:59 p.m. on the day of registration to avoid being removed from your classes. If the class has already started and you are registering late, you will be held in the class and responsible for payment.

Formal Payment Arrangements that will prevent you from being removed from classes include:

- AWARDED FINANCIAL AID: Verify that the "Review and accept your Financial Aid Award Package" row is marked complete

in the Self-Service Financial Aid section.

- AUTHORIZATION: If a third party (company/employer/agency) will be paying all or partial tuition and/or fees for a student, they will need to submit Gateway's authorization form to the Student Accounts Department. Students can log into their Self-Service account under the "Activity" section to confirm that their authorization is on file.
- PAY FEES IN FULL: Payment can be submitted online via through My Gateway by selecting Financial Information | Make a Payment at gtc.edu, over the phone at 1-800-247-7122 or in person at any Student Services Center.
- STUDENT PAYMENT PLAN: Students can log into their My Gateway account and select Financial Information and select Payment Plan or visit any Student Services Center to enroll. NO fee and NO down payment are required; your first payment is due the first Friday of the semester.
- SCHOLARSHIPS: Scholarship checks must be received and listed in the students My Gateway account to hold the student in their classes.
- VETERANS EDUCATION BENEFITS: Students that have all paperwork on file for their Post 9/11 GI Bill (Chapter 33), WI GI Bill, VA Vocational Rehabilitation (Chapter 31) benefits will be held in their classes. Students will receive an email to their Gateway student email address once their benefits have been processed

For additional information on payment arrangements, please visit: **gtc.edu/payment.**

## Student Payment Plan

The Student Payment Plan is available each term until the first installment due date for that term.

| Term | Summer 2019 | Fall 2019 | Spring 2019 |
|---|---|---|---|
| Payment Plan Options | 2/4/2019 | 4/1/2019 | 11/4/2019 |
| Initial Payment/ 1st Installment | 5/10/2019 | 9/6/2019 | 1/10/2020 |
| 2nd Installment | 5/31/2019 | 9/27/2019 | 1/31/2020 |
| 3rd Installment | 6/21/2019 | 10/20/2019 | 2/21/2020 |
| 4th Installment | 7/12/2019 | 11/1/2019 | 3/13/2020 |

Students can enroll in the payment plan via My Gateway or by visiting any Student Services Center during normal business hours. Students will receive statements at the mailing address on file with Gateway. If a statement is not received, the student is still responsible for the balance.

Students can view their payment plan balance by logging into your My Gateway account and selecting Financial Information | Make a Payment at **gtc.edu.**

The following outlines the Student Payment Plan requirements.

- Student must be enrolled in 3 or more credits. (Not available for non-credit students or to students only registered in Adult High School, Business Workforce Solutions and Traffic Safety courses.)

- Partial payments do not enroll you in the Payment Plan; the student must officially enroll on the plan and complete the signed contract.

- A maximum of $4000 is allowed on payment plan. Any charges over the maximum must be paid in full at time of enrollment on the plan.

- Four (4) installment payments are due during the semester for which the payment plan is initiated. Due dates are published in the student handbook, on Gateway's website and on the Payment Plan form. Students receive a bill, which is sent to the current address on file. Payments are due by scheduled due dates without exception, even in the event a bill is not received by the student.

- A late fee of $45.00 will be assessed if scheduled payments for the Payment Plan are received after the due date.

- There is no grace period beyond the due date for payment before a late fee is assessed.

- The student will not be removed from classes and will be responsible for payment of all fees once enrolled on the payment plan.

## Past Due Balances

Students are responsible for all charges incurred on their student account. Debts owed to Gateway are educational debt and therefore seen as educational loan if not paid prior to the end of the term. Your student account is considered by Gateway, a non-profit institution of higher learning, to be an educational loan made to you to assist in financing your education, and therefore is not dischargeable under the United States Bankruptcy Code. Gateway has the right to recover any collection and/or litigation costs incurred in the collection of any amount due.

It is the student's responsibility to ensure all applicable funding (example: financial aid, scholarships, and other outside payments) is applied to their account as expected. Balances not paid by the due date may be subject to the following:

- A late payment fee of $45 for failure to pay installments on payment plan

- Referral to an outside collection agency and collections costs

- The withholding of transcripts

- Inability to register

All unpaid balances are subject to collections and credit bureau reporting. A letter will be mailed to the student 30 days prior to this action occurring. If the account is sent to collections, the student is responsible to pay all collection costs, including attorney's fees incurred by Gateway Technical College or its representatives in association with the collection of the past due debt.

Gateway utilizes the Wisconsin Department of Revenue Tax Refund Interception program (T.R.I.P) and State Debt Collections Program (SDC) to collect outstanding debts owed to Gateway.

*Students are able to make partial payments online or in person. However, a hold is removed only after a students outstanding balance is paid in full. Making payments on an overdue balance will not prevent an account from being sent to collections.*

## Balance of $200 or Less

In accordance with Gateway Technical College's Board of Trustees policy, in the event a student has a past due balance totaling $200 or less, the student will be allowed to register for future courses; however, a hold will still be placed on their account that will prevent them from accessing their transcripts and other services.

## Balance of $200 or More

Students are responsible for all charges on their account. In the event a student has a past due balance over $200, a hold will be placed on the student's account. The results of this hold is:

- You cannot register for classes

- You cannot receive or send an official copy of your Gateway Technical College transcripts

- Access to other records and/or services may also be restricted

## 95% or Greater Funding Policy

Students who have a total outstanding balance over $200 that have submitted the items below will be able to register for future courses at Gateway:

- A third-party authorization on file, reflecting 95% or greater funding for the term they are registering for.

- Submitted proof of a payment plan with the State Debt Collection Agency for the total amount of the outstanding debt.

Please note that until all outstanding debts to Gateway are resolved by being paid in full, access to services, transcripts and diplomas will be restricted.

## Prior Debt Process

Students receiving financial aid may be eligible to take advantage of the Prior Debt Process to assist with paying prior debts with excess Financial Aid funds. Students can apply for the Prior Debt Process via My Gateway.

## Refund Policy

### Refunds for Dropped Classes

Students can drop a course online by logging into My Gateway account, or in person by visiting any Student Services Center. Students are responsible for all incurred charges up to the time in which courses are dropped.

Students may be eligible to receive a reduction in tuition and fee charges if a course is dropped during the designated drop period for that course.

An adjustment in tuition charges will be processed in accordance with the refund schedule listed below:

| Refund Schedule | | | |
|---|---|---|---|
| Drop | Before the first class meeting | Last Refund Drop Date column on the front side of student's class schedule | 100% Refund |
| Drop | 1–10% of class meetings elapsed | Last Refund Drop Date column on the front side of student's class schedule | 80% Refund |
| Drop | 11–20% of class meeting elapsed | Last Refund Drop Date column on the front side of student's class schedule | 60% Refund |
| Withdrawal | 21–80% of class meetings elapsed | Contact Student Services for withdrawal dates, instructions, and information | No Refund |
| Non-attendance/ Instructor Drops | Definition: Student doesn't attend or discontinues attendance without completing and submitting drop or withdrawal paperwork. | | No Refund |

The student's class schedule is available via "My Class Schedule" on WebAdvisor.

## No Refund for Instructor Drops

A student who registers for a class but who fails to attend, or stops attending during the refund period without dropping, may be dropped by the instructor. As an instructor drop is administrative and not student initiated, the student is not eligible to receive a refund.

## No Refund for Withdrawals

No refund is made when a student withdraws from a class. Students are able to withdraw from classes after the refund period has ended, e.g., after 20% of the class meeting times have elapsed.

## Refunds for Cancelled Classes

A student is entitled to a full refund of all tuition and fees paid for a class if Gateway Technical College cancels the class.

## Called to Active Duty

The college will provide a full refund of tuition and fees to students enlisted in the military prior to the term start and called into active service during the term. Students should submit deployment paperwork to any Student Services Center for review. An email will be sent to the students Gateway email account with a decision regarding their account within 5 business days of the paperwork being received.

## Account Adjustments

Refunds will be applied to any outstanding balance the student has at the College. If the student account is:

**Paid in Full -** The refund will be mailed to the student's current address. No cash refunds.

**Payment Plan Account -** Any refund will be credited toward the balance owed. The amount due on subsequent statements will reflect the adjustment in fees. The refund percentage is based upon the total cost of the courses; it is not a percentage refund of the payments the student has made.

**Paid by Sponsorship/Agency/Company -** The tuition charges billed to the third party will be reduced. No refund will be issued.

**Paid/Partially Paid by Financial Aid -** The Financial Aid award/disbursement will reflect adjustments due to dropped classes.

## Refunds Applied to Balances

If a student owes an outstanding balance and has a refund, the account will be reviewed to determine if any eligible funding or payments can be applied to the outstanding balance before a refund is issued. If the funding is not eligible to be applied to a past due balance, the student is still responsible to pay the outstanding balance. Any unpaid balances will be sent to collections.

## Student Account Appeals

Students are responsible for payment of all charges on their account. However, in the event that a student encounters an extenuating circumstance that unexpectedly impacted their ability to complete their courses, the student may request a Student Account Appeal to potentially reduce the balance on their account. Please note that an approved Student Account Appeal will only adjust tuition charges, not other fees or bookstore charges on a students account.

A student that wishes to submit a Student Account Appeal form is required to meet with a Student Finance Specialist to discuss their situation in more detail. If the students situation meets the criteria for an appeal, the Student Finance Specialist will provide the form.

All completed Student Account Appeals and supporting documentation must be submitted within 120 days from the official end of the term that the student is appealing charges for. Appeals submitted after that date will not be reviewed.

Students will receive a decision regarding their appeal within 45 days from the date the completed appeal was received by Gateway staff. An explanation, regarding the decision will be sent to the students Gateway email account.

# Academic Information and Student Records

## Gateway Technical College Credentials

### Associate Degrees, Technical Diplomas, and Advanced Technical Certificates

The Gateway Technical College District Board has the authority to grant Associate of Applied Science Degrees, Technical Diplomas and Advanced Technical Certificates to graduates of occupational programs approved by the Wisconsin Technical College System Board. Students must apply to the AAS or technical diploma programs and submit an application for graduation to graduate.

### Gateway Certificates

The Gateway Technical College District Board may award District certificates to students who complete a specific course or group of courses. Certificates are designed to help students gain entry level employment in specialized areas or to qualify for occupational advancement. Students must apply to the certificate program and complete a certificate completion form to receive a certificate.

### Adult High School Diploma

Gateway's Adult High School program is designed for those 18 years or older who want to attain their high school diploma. This is not a GED; it is a diploma issued by the student's former school district (subject to approval from the collaborating district in Kenosha, Racine or Walworth County). The Adult High School Diploma is recognized by the Wisconsin Department of Public Instruction. Some associate degree or technical diploma classes may be used to fulfill high school graduation requirements. The Adult High School academic advisor in Student Services can give you more information on obtaining a high school diploma through Gateway. *Note: Students dually*

*enrolled in adult high school and post-secondary courses are not eligible for financial aid.*

## General Education Development (GED®)

Students can earn their GED by passing the official GED Testing Service tests. Subjects include Language Arts (RLA - Reasoning through Language Arts), Math, Science and Social Studies. Students must also pass the Civics exam. Prior to testing, students must complete an orientation (course 890-721) through the Adult Learning Center. GED instructors can pretest in all four testing subject areas. Practice tests are available in selected subject areas. GED teaching strategies include small group instruction, computer-assisted learning, self-guided exercises and assignments and one-on-one tutoring. Non-resident fees may apply.

## High School Equivalency Diploma (HSED)

An HSED may be completed in several ways. Many students decide to complete their HSED through GED testing and completion of Health, Civics exam, Career Awareness and Employability Skills. An HSED may also be obtained through the completion of high school credits, post-secondary credits or competencies. Students may also be eligible to receive an HSED if they have been granted a diploma from a foreign country. Students interested in pursuing an HSED should have their official high school transcripts sent to Gateway Admissions Office for review. All HSED participants must take an orientation (890-721) prior to starting the HSED program. Nonresident fees apply.

## English Language Learner Program (ELL)

ELL is designed to prepare students whose first language is other than English to speak and understand the English language. Students will improve their speaking and listening, grammar and writing, and reading and vocabulary skills and learn about health, community, government, consumer education and employability skills. Large and small group instruction, computer-assisted learning and self-guided exercises and

assignments are utilized. Free to Wisconsin residents.

## Student Name

The name on a student's record is the official name which will be displayed on college documents, transcripts and diplomas. Name changes will only be completed upon presentation of a legal document supporting the change, linking the new name to the name currently on the student's record. Requests for name changes may be submitted to any Student Services Center. Gateway recognizes that students may use names other than their legal names to identify themselves. The college is phasing in the ability to use students' chosen names where possible. The student's legal name will continue to be used in business and other processes that require the use of a legal name. Students can submit a chosen name request online at **gtc.edu/forms**, in the Registrar Forms section, or in person in Student Services.

## Social Security Number Policy

Social Security numbers (SSN) are used to identify student records. A student's failure to provide a SSN may delay processing. All Gateway students who are applying for financial aid are required to provide their Social Security number. A Social Security number is critical to state and federal reporting and the financial aid process. The Social Security number is protected by the Family Educational Rights and Privacy Act (FERPA), is not considered directory information, and therefore will not be released to a third party. The Internal Revenue Service allows some post-secondary students to claim an education income tax credit on their taxes. In order to claim this credit, the student's Social Security number must be on file at the college so the student's enrollment can be reported to the IRS. The college will make a 1098T form available to the student electronically by January 30 of each year. This will document the student's SSN on file and the post-secondary

enrollment information. For tax credit eligibility information, consult your tax professional. The Internal Revenue Service requires that Gateway provide 1098-T forms annually to post-secondary students.

## Student ID Number

Every student will have a system-generated ID number that will appear on his or her academic record and most Gateway correspondence. This number is not considered directory information and will not be released to a third party. It is important that students know their student ID number.

## Curriculum Sheets

Curriculum sheets detail current course requirements and course descriptions in a student's program. In order to graduate from a specific program, students must fulfill the requirements of the curriculum sheet for the academic year for which they were accepted.

At any time, a student may elect to follow the most recent program curriculum but may not move to a previous sheet. To move to the most recent program curriculum, students must complete a Curriculum Year Change form. This form can be found under the Registrar section at **gtc.edu/forms** or at any Student Services Center.

Useful information concerning possible job opportunities at entry and advanced levels is listed on the back of each curriculum sheet. Curriculum sheets can be obtained at **gtc.edu** or printed in any Student Services Center.

## Academic Standards

**Academic and Program Standards—**Academic and program standards are developed and are available to all students.

**Continuous Student Enrollment (Policy J-110)—**Academic programs at Gateway undergo frequent changes to keep programs current with

demands in technology and accreditation criteria. Generally, students are allowed to graduate following the program curriculum sheet in place at the time of the student's initial program acceptance. Because of frequent program changes and the length of time taken by students to meet graduation requirements, the following policies will govern which curriculum sheet will be used to define a student's graduation requirements:

1. The College does, after two (2) years of non-continuous enrollment, require the student to follow the most recent program curriculum in order to graduate.

2. The College reserves the right to place a seven (7) year limitation on accepting courses for graduation. Some programs have more stringent age requirements on course age for courses that are prerequisites to program courses.

3. At any time, a student may elect to follow the most recent program curriculum.

4. The College reserves the right to establish course substitutions when courses are inactivated to meet program curriculum requirements.

## Grading System

Complete information regarding Gateway's grading system, including credits, grading, grade changes, student records, grade-point average (GPA), mid-term grades, academic progress, Provost's Honors and Dean's List can be found in Gateway's Student Handbook and on Gateway's website at **gtc.edu/handbook.**

## Attendance

Gateway recognizes the importance of attendance in the learning process but does not believe that attendance in and of itself constitutes learning. Instructors will document in their course syllabi fair and reasonable attendance policies for their classes based on their subject matter, delivery methods,

learning activities, student audience, external regulations, college and departmental guidelines and employer expectations in their field of instruction. Students are responsible for reading and understanding each class attendance policy and for learning any material covered during an absence.

To be eligible to receive financial aid funding for classes, students must be registered for and attending all classes prior to the established Census Date.

## Credit for Prior Learning

### Transfer Credits From Another Institution

A student must be accepted to a post-secondary program at Gateway before transfer credits will be evaluated. Courses completed at a regionally accredited institution are evaluated to determine transferability. Coursework completed at an institution which is not regionally accredited may be evaluated through the credit for prior learning process to determine what proficiency credit may be granted. Gateway must have official transcripts on file before transfer credits are evaluated. Official transcripts are defined as transcripts sent directly by mail to Gateway from the issuing institution, by a recognized electronic transcript service or hand-delivered by the student if the transcripts remain unopened in the issuing school's sealed envelope. Official transcripts must have the issuing school's seal and appropriate official's signature to be accepted. Official transcripts remain the property of Gateway Technical College and cannot be returned. Gateway Technical College cannot provide students with copies of their transcripts from other institutions. Students requiring copies of transcripts from other institutions they have attended must obtain them directly from those institutions. A minimum grade of C is required for courses to be accepted as transfer. Courses with a grade of C- or below will not be accepted.

The Transfer Credit Specialist will evaluate the transcripts working in collaboration with course instructors and academic deans as necessary to determine course transfer credit.

## College Level Examination

College-level proficiency credit will be granted for knowledge validated by the Advanced Placement (AP) program, College Level Examination Program (CLEP) and Dantes Subject Standardized Test (DSST). Please refer to Gateway's website for a list of accepted exams. Students must meet minimum score requirements to be awarded credit. A minimum score of 3 is required for AP exams, a minimum score of 50 is required for CLEP exams and minimum scores on DSST exams varies by exam. Some examinations may require additional competence tests before credit can be granted. An official transcript, score report or equivalent documents issued by the external agency must be submitted before credit can be granted.

## Military Evaluation

Credit may be granted upon review of an official military transcript from Joint Services Transcript (JST) which may be requested at jst.doded.mil. Transcripts should be submitted to the Registrar's Office. Guidelines established by the American Council on Education (ACE) are considered in addition to referrals to specific departments when deemed necessary. The Registrar's Office will evaluate the transcripts working in collaboration with academic departments as necessary to determine course transfer and/or proficiency credit.

## Articulation for High School Students

Through articulation agreements with area high schools, Gateway awards credits for certain approved courses taken at the high school level. Students must enroll in Gateway within 27 months of high school graduation and have earned a B or better in the high school course. It is also possible for qualified high school students to enroll in a higher level Gateway course with the consent of the academic advisor. High school students should speak with their high school guidance counselors regarding these opportunities.

## Prior Learning Assessment

A student must be active in an associate degree, technical diploma or certificate program at Gateway to be eligible to apply for prior learning assessment. Prior learning assessment recognizes prior learning through the awarding of academic proficiency credit. Credit or its equivalent is awarded for learning, with consideration given for work experience. Students with prior learning experience may be able to pass prior learning assessment tests and earn credits toward their diploma or degree from Gateway. Prior learning assessment fees are charged and are not covered by financial aid. No student is allowed to apply for prior learning assessment for a course which they are failing or for which they have received a letter grade on their official transcript including A through F grades, incomplete or withdrawal grades.

The prior learning assessment option should be considered by students who have:

- Extensive high school coursework which is not covered under an articulation agreement.
- Broad work experience supported by training and seminars with content similar to Gateway courses.
- Courses from other institutions which are not regionally accredited.
- Diploma courses not directly transferable to associate degree programs.
- Completion of noncredit coursework, self-study or other nontraditional education or training.

Prior learning assessment may be available through the following processes:

1. **Credit by Examination**
   Proficiency credit may be granted to students who demonstrate course competencies through the satisfactory completion of college developed written tests for specified courses. Contact **cfpl@gtc.edu** for information.

2. **Credit by Demonstration**
   Proficiency credit may be granted to students who demonstrate course competencies through the satisfactory completion of college developed demonstrative performance tests for specified courses. Exams are not available for all courses. Contact **cfpl@gtc.edu** for information.

3. **Evaluation of Experience**
   Proficiency credit may be granted to students who demonstrate course competencies through portfolio presentations demonstrating mastery of skills or competencies. Portfolio presentations are not available for all courses. There are specific courses for which proficiency credit may be granted through portfolio presentations. Contact **cfpl@gtc.edu** for information.

## Graduation Requirements

Complete information regarding graduation from Gateway including graduation requirements, computation of GPA for graduation, application for graduation, graduation with honors, Provost's Honors program at graduation, commencement ceremony and transcripts can be found in Gateway's Student Handbook and on Gateway's website at **gtc.edu/handbook.**

## Student Rights and Responsibilities

Gateway is dedicated to helping students identify and achieve realistic goals through excellent educational opportunities. The administration and staff of the College promote responsible participation and high achievement as goals for our students. As a Gateway Technical College student, you should be aware of and accept responsibility as

an active, contributing member of the College. This section explains policies and procedures identifying student rights and responsibilities. Gateway Technical College believes that all students have responsibilities in the areas of governance, services and conduct.

Additional information on policies such as student academic responsibilities, student use of services, student code of conduct, student complaints, student due process, restraining orders and orders of protection, reasonable accommodations, and computer, networking and information resources can be found in Gateway's Student Handbook and on Gateway's website at **gtc.edu/handbook.**

## Student Information Updates

It is necessary for the college to have current student contact information for the purpose of communicating official correspondence and for use in case of emergencies. Students are responsible for keeping Gateway records up-to-date with their current mailing address, email address and phone numbers. Student can update their information via MyGateway>WebAdvisor & Self-service>Personal Information>Update Personal Information. Students may also submit a Student Data Change form in Student Services. When students leave Gateway, it is their responsibility to maintain updated contact information with the college for purposes of continued communication.

## Texts and Automated Calls

SMS messages, also known as text messages, and automated phone calls are types of communication that Gateway Technical College may send to students. These forms of communication may be utilized by authorized university officials to relay registration, waitlist, course cancellation, academic advising, account information and financial aid messages that are time sensitive in nature. Students may opt out of receiving these text messages and calls via MyGateway>WebAdvisor & Self-service>Personal Information>Update Personal Information. They may also submit this information

in person at any Student Services Center.

*Note: If your cell phone provider charges for text messages received, there will likely be a cost associated with this service. Check with your mobile phone provider.*

For information about Gateway's "AlertMe" Emergency Notification System, please see the Services for Students section of the handbook on Gateway's website at **gtc.edu/handbook.**

## Federal Family Educational Rights and Privacy Act (FERPA)

### Notification of Rights

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. FERPA rights begin when a student registers for a course or at the point of admission to a program. These rights include:

(1) The right to inspect and review the student's education records within 45 days of the day the College receives a request for access. A student should submit to the Registrar's Office a written, signed request that identifies the record(s) the student wishes to inspect. The registrar or designee will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the registrar, that official shall advise the student of the correct official to whom the request should be addressed.

(2) The right to request the amendment of the student's education records that the student believes are inaccurate, misleading or otherwise in violation of the student's privacy rights under FERPA. A student who wishes to ask the college to amend a record should write the College official responsible for the record, clearly identify the part of the record the student wants changed and specify why it should be changed. If the College decides not to amend the record as

requested, the College will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

(3) The right to provide written consent before the College discloses personally identifiable information from the student's education records, except to the extent that FERPA authorizes disclosure without consent. The College discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by the College in an administrative, supervisory, academic or research or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the College has contracted as its agent to provide a service instead of using College employees or officials (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an educational record in order to fulfill his or her professional responsibilities for the College.

(4) The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

> Family Policy Compliance Office
> U.S. Department of Education
> 400 Maryland Avenue, SW
> Washington, DC 20202-5901

## Notification of Directory Information

Gateway Technical College complies with the provisions of FERPA. Prior written consent from a student must be obtained before information may be disclosed by Gateway Technical College to third parties, unless the information or the individual or group making the request is exempted by the policy and the Family Educational Rights and Privacy Act of 1974. Such exemptions are made for the following:

1. Request from Gateway Technical College faculty and staff with a legitimate need to know.

2. Request in accordance with a lawful subpoena or court order.

3. Request from representatives of agencies or organizations from which the student is receiving or has received financial aid.

4. Request from officials of other postsecondary educational institutions to which the student has applied for admission.

5. Request from other persons or agencies specifically exempted from the prior consent requirement by the Act. This includes certain federal and state officials of the District accrediting agencies, etc.

6. Requests for directory information, which includes the following categories:

   -Name
   -Hometown
   -Date of birth
   -Program of enrollment (major field of study) and number of credits for which currently or formerly enrolled
   -Participation in officially recognized activities
   -Dates of attendance (including enrollment status, classification, and year, matriculation, and withdrawal dates)
   -Candidacy for graduation
   -Degrees and awards (type of degree and date granted)

-Honors received
-Most recent previous educational agency or institution attended

The student may elect to have directory information held confidential. When this option is exercised, the only information that will be released by Gateway, other than for exemptions 1 through 5 above, is confirmation that a student is or has been enrolled at Gateway. If a student elects to allow the release of directory information, such release will be limited to those requests perceived to be in the best interest of the student; e.g. requests from parents, friends, relatives, prospective employers or licensing agencies seeking to confirm certain information, societies, news releases, programs, etc. Gateway Technical College assumes no responsibility or liability for the accuracy of judgment as to whether or not a release of directory information is in the best interest of a student.

If a student elects to have directory information held confidential, they should contact the Registrar's Office for further information and to complete the appropriate form. Gateway will assume no responsibility for contacting students who have elected to stipulate directory information as confidential for the subsequent permission to release any information. When a student or former student no longer wishes their information to be confidential they must complete a form with the Registrar's Office to reverse the previous action.

## Enrollment Policy – J-190

Students will be considered enrolled in a class upon registration (and provided they remain registered) if they have:

- Paid the required tuition and fees, or
- Entered into a standardized payment plan with the District, or
- Been awarded financial aid, or
- A third-party payer authorization/contract on file with Gateway guaranteeing payment of the tuition and fees.

Any student who has an outstanding debt greater than $200 with the College will not be allowed to register until the debt has been reduced to $200 or less unless the student has a 95% or greater third-party payer authorization in place with the Student Accounts Office and has a payment arrangement in place for the outstanding debt. Students who believe they should not be held responsible for charges to their account due to extenuating circumstances must follow Student Account Appeals procedures. This policy will be effective in reference to debts incurred after January 1, 1992.

## Student Right-to-Know Reporting Policy – J-270

### Policy

Gateway will maintain and disclose student program completion and graduation rates in compliance with the Student-Right-To-Know and Campus Security Act.

### Procedure

- Information on completion and graduation rates of all technical diploma or associate degree-seeking full-time students will be collected.
- This information as well as Campus Security Information will be made available through appropriate College publications, on the Gateway Technical College website (gtc.edu), and to prospective students upon request.
- This information will be available before prospective students enroll or enter into any financial obligation with the College.

## Drug-free Environment

Any student who engages in an activity on Gateway premises or at a Gateway-sponsored event, that constitutes a violation of the State of Wisconsin Uniform Controlled Substances Act, shall be subject to non-academic misconduct disciplinary

sanctions. In determining the appropriate sanction, the College President, or designee, shall consider those penalties, including suspension and expulsion, that will contribute most effectively to maintaining a College environment free from controlled substances.

In keeping with local, state and federal laws, Gateway Technical College prohibits the possession, use, or distribution of drugs, alcohol or any intoxicant, by students while on College property or when involved in any College sponsored activity. If a student has a drug or alcohol problem, we highly recommend that they seek assistance from the Student Services office.

## Tobacco-free Environment Policy – E-155

Gateway Technical College recognizes the health hazards associated with smoking and the use of tobacco products and is strongly committed to maintaining and improving the health and well-being of all students and staff.

Therefore, Gateway prohibits the use of tobacco products at any time on all Gateway properties including but not limited to all buildings, grounds, sidewalks, streets, parking lots and structures and all Gateway owned and leased vehicles. This prohibition applies to all employees, students and visitors at any school-sponsored instructional program or activity held on or off district property. Any written joint use agreement governing community use of district facilities or grounds, shall include notice of the district's tobacco-free schools policy and the consequences for violations of the policy.

Prohibited products include any product containing tobacco or nicotine, including, but not limited to, cigarettes, cigars, miniature cigars, smokeless tobacco, snuff, chew and nicotine delivery devices such as electronic cigarettes, electronic hookahs and other vapor-emitting devices with or without nicotine content that may mimic the use of tobacco products. Exceptions may be made for the use or

possession of prescription nicotine products.

Failure to comply with this policy will be dealt with through the college's disciplinary procedures. Students, staff, visitors and tenants who breach the policy will be asked to cease use of said product and may be asked to leave the premises if they fail to comply with that request. All breaches of this policy will be recorded in writing.

## Conceal Carry

In an effort to provide a safe learning and working environment, Gateway Technical College has initiated a policy prohibiting anyone except for authorized law enforcement personnel, from bringing a weapon inside any college building. Gateway bans all weapons, as defined by Wisconsin state statute, inside college facilities which includes – but is not limited to – such items as knives and firearms.

Persons storing weapons within their own vehicles while parked on college owned, leased or operated lots or grounds should make sure of the following:

- Conceal the weapon from open view
- If a firearm, store the weapon in a secured (locked) case or install a locked trigger guard

## Equal Opportunity, Civil Rights, and Sexual Misconduct Policy – H-110

Gateway adheres to all federal and state civil rights laws prohibiting discrimination in public institutions of higher education. The full and current copy of this policy (Policy H-110) is posted at **gtc.edu/eeo** and **gtc.edu/TitleIX**. The College will not discriminate against any employee, applicant for employment, student or applicant for admission on the basis of race, color, national origin, ancestry, creed, religion, political affiliation, marital status, parental status, pregnancy, family or medical leave, disability, age, gender, sexual orientation, arrest record or

conviction record, retaliation, union or non-union affiliation, membership in the National Guard, state defense force or any reserve component of the military forces of the U.S. or Wisconsin or any other protected category under applicable local, state or federal law, including protections for those opposing discrimination or participating in any resolution process on campus or within the Equal Employment Opportunity Commission or other human rights agencies. This policy covers nondiscrimination in employment and in access to educational opportunities. Therefore, any member of the campus community who acts to deny, deprive or limit the educational or employment access, benefits and/or opportunities of any member of the campus community, guest or visitor on the basis of their actual or perceived membership in the protected classes listed above is in violation of Gateway's policy on nondiscrimination.

**Any questions concerning Affirmative Action, Equal Opportunity, and Sexual Misconduct contact:**

**Joshua Vollendorf**, Compliance Manager/
Title IX Coordinator/504 Coordinator
3520 30th Avenue, Kenosha, WI 53144
(262) 564-3062
e-mail: vollendorfj@gtc.edu
Wisconsin Relay System: 711

**Debbie Miller**, Director Human Resources
Equal Employment Opportunity Officer, Titles VI, VII & IX
3520 30th Avenue, Kenosha, WI 53144
(262) 564-3220 • (262) 960-1931 (text)
(262) 564-2838 FAX
email: millerd@gtc.edu
Wisconsin Relay System: 711

An abridged version of that policy is available in the student handbook and is available on the college website at **gtc.edu/handbook**.

## Resolution Procedure for Allegations of Harassment, Sexual Misconduct, and Other Forms of Discrimination Policy – H-120

The following are highlights from Policy H-120. Please read the entire policy at **gtc.edu/TitleIX**.

The following steps, though the order of the steps may vary depending on the situation, will be followed by Gateway Technical College in response to discrimination allegations and/or sexual harassment and misconduct in which information indicates a violation of Policy H-110

- In coordination with campus partners (e.g.: the Campus or Academic Dean), initiate or assist with any necessary interim remedial actions;

- Determine the identity and contact information of the reporting party;

- Identify all policies allegedly violated;

- In cases where there is reasonable cause to believe other college policies were violated the complaint will be referred to the appropriate office unless investigated as a collateral allegation as described in the Administrative Resolution section, below;

- Commence a thorough, reliable and impartial investigation by developing a strategic investigation plan, including a witness list, evidence list, intended timeframe and order of interviews for all witnesses and the responding party, who will be given notice prior to interview;

- The Title IX Coordinator (or designee) will prepare the notice of allegation on the basis of the preliminary inquiry;

- Meet with the reporting party to finalize their statement, if necessary;

- Provide written notification to the parties prior to their interviews that they may have the assistance of an advisor of their choosing present for all meetings attended by the advisee;

- Provide reporting party and responding party with a written description of the alleged violation(s), a list of all policies allegedly violated, a description of the applicable procedures and a statement of the potential sanctions/responsive actions that could result;

- Allow each party the opportunity to suggest questions they wish the investigators to ask of the other party and witnesses.

- Provide parties with all relevant evidence to be used in rendering a determination and provide each with a full and fair opportunity to address that evidence prior to a finding being rendered;

- Once the report is complete, the report is shared with the parties for their review and comment. Both parties have five days to review the report and all material evidence collected during the investigation and which was used to make a determination. The investigators may conduct additional investigations based on the feedback and incorporate feedback from the parties as appropriate;

- Make a finding, based on a preponderance of the evidence ( which means whether a policy violation is more likely than not to have occurred);

- The Title IX Coordinator will make recommendations for sanctions if the policy was violated;

- The Equal Opportunity Officer will review and approve the report, findings and sanctions, if applicable;

- The investigator will finalize and present the findings to the parties in writing.

Additional information regarding this policy can be found in Gateway's Student Handbook and on Gateway's website at **gtc.edu/handbook.**

## Student Religious Accommodations Policy – J-170

In compliance with Wisconsin Administrative Code and the Civil Rights Act of 1964, Title IV, Gateway Technical College will make reasonable accommodation of a student's religious beliefs. A student may request reasonable accommodation from his/her instructor with regard to examinations and other academic requirements. The student request must be in writing and submitted to the instructor five (5) working days prior to the date(s) of the anticipated absence. Instructors will provide a means by which a student can perform the make-up examination or other academic requirements in a timely manner without penalty. Should the student deem the accommodation unreasonable, the student should contact the Dean of the appropriate school/division. If the student is still unsatisfied with the accommodation, the student may contact the Office for Equal Opportunity and Civil Rights at 262-564-3062.

While all Gateway programs develop skills for employment, students are encouraged to pursue continuing education opportunities upon completion of Gateway programs. This may include involvement in professional associations, company-provided workshops or updates, professional development, etc., as well as continuation of formal education.

To meet the need for lifelong education in our increasingly demanding and technical workplace, a growing number of Gateway Technical College students have successfully continued their education at a variety of institutions of higher learning.

Cooperating institutions determine the number and ways in which credits may be transferred and used towards further degree completion. Detailed course descriptions, transcripts detailing work completed, student records of individual programs and assistance from Student Services Centers may facilitate this process.

Students are advised to check with the admission departments at the institutions where the students may eventually wish to transfer credits, as well as with Gateway's Student Services Center, to determine current arrangements. Graduates interested in transferability of credits earned through an associate degree program should contact a Gateway academic advisor for specific information.

## Articulation Agreements with Institutions of Higher Learning

Gateway Technical College is connected with a number of postsecondary institutions within the state and nationally. Gateway currently articulates with more than 40 colleges and universities, allowing students to transition from Gateway Technical College to another institution in a smooth and seamless manner.

Students can take advantage of online learning opportunities from many higher education partners to transfer their credits and complete bachelor's

degrees without leaving the Gateway campus. In addition, Gateway has agreements with Cardinal Stritch University and Upper Iowa University that allow students to complete bachelor's degree and master's degree programs by attending classes on Gateway's campuses.

Gateway Technical College has articulation agreements with the following institutions of higher learning:

- Alverno College
- Ashford University
- Aurora University–George Williams College
- Bellevue University
- Bryant & Stratton College
- Capella University
- Cardinal Stritch University
- Carroll University
- Carthage College
- Chamberlain College of Nursing
- College of Lake County
- Columbia College
- Concordia University Wisconsin
- Ferris State University
- Franklin University
- Grand Canyon University
- Herzing University
- Indiana Tech
- Lakeland College
- Marian College
- Marquette University
- McHenry County College
- Milwaukee Institute of Art and Design
- Milwaukee School of Engineering
- Mount Mary University
- Northland College

- Ottawa University
- Pennsylvania College of Technology
- Purdue University Global (formerly Kaplan University)
- Purdue University Northwest
- Rasmussen College
- Silver Lake College
- Southern Illinois University/Carbondale
- Trinity International University
- University of Phoenix
- University of Wisconsin System Colleges–see JACAP Agreed Statement
- University of Wisconsin–Eau Claire
- University of Wisconsin–Green Bay
- University of Wisconsin–LaCrosse
- University of Wisconsin–Madison
- University of Wisconsin–Milwaukee
- University of Wisconsin–Oshkosh
- University of Wisconsin–Parkside
- University of Wisconsin–Platteville
- University of Wisconsin–River Falls
- University of Wisconsin–Stevens Point
- University of Wisconsin–Stout
- University of Wisconsin–Superior
- University of Wisconsin–Whitewater
- Upper Iowa University
- Viterbo College
- Wisconsin Lutheran College

Additional information can be found at **gtc.edu/transfer.**

### JACAP Agreed Statement

### UW/Technical College System Uniform Policy Statement On Credit Transfer

Students enrolled in the Wisconsin Technical College System (WTCS) who wish to continue their education in the UW System (UWS) may be eligible to transfer credits toward their associate degree in the following ways:

- Students enrolled in the college parallel program at any of the following five WTCS institutions: Madison College (MATC), Milwaukee Area Technical College, Nicolet Area Technical College, Chippewa Valley Technical College or Western Technical College may be eligible to transfer up to 72 credits.

- WTCS students may be eligible to transfer up to 72 credits of general education coursework within the areas of Communications, Behavioral Sciences, Social Sciences, Mathematics and Natural Sciences.

- Students transferring from the WTCS may be eligible for credit by earning appropriate scores on national standardized examinations (e.g., College Level Examination Program) or examinations developed by the UW Colleges.

For more information about these transfer opportunities, students should consult with their WTCS advisors or the Student Affairs Office at a UW Colleges campus.

# UNIVERSITY OF WISCONSIN

# PARKSIDE

## General Studies
## Transfer Certificate

Transfer agreement between Gateway Technical College and University of Wisconsin—Parkside. Gateway students who complete the certificate's 30-credit program of study comprised of general studies courses can apply those credits toward the liberal arts requirements for their UW–Parkside baccalaureate degree.

Students will be admitted to both Gateway and UW-Parkside and may be eligible for financial aid through UW–Parkside for this certificate.

For more information and to apply, contact a Gateway New Student Specialist.

**gtc.edu/genstudiescert**

## GATEWAY
### TECHNICAL COLLEGE

Through an agreement between Gateway Technical College and College of Lake County and McHenry Community College, students may be able to attend approved programs in their neighboring state at in-state rate. Gateway Technical College district residents interested in participating should contact Gateway's Admissions department. Illinois residents interested in this option should contact the appropriate official at the college in their home county.

### Gateway Programs Available to McHenry County Residents

Aeronautics – Pilot Training (A.A.S.)*
Alcohol and Other Drug Abuse (Internal Certificate)
Air Conditioning, Heating & Refrigeration Technology (A.A.S)
Barber Technologist (Diploma)*
Civil Engineering Technology-Freshwater Resources (A.A.S)
Civil Engineering Technology-Highway Technology (A.A.S.)
Cosmetology (Diploma)*
Dental Assistant (Diploma)*
Human Service Associate (A.A.S.)
Interior Design (A.A.S.)
Medical Assistant (Diploma)*
Surgical Technology (A.A.S.)*

### McHenry Programs Available to Gateway Residents

Construction Management (A.A.S)
EMT–Ambulance (Certificate)
Fitness Instructor Training (Certificate)
Health and Fitness Education (A.A.S)
Manufacturing Management (A.A.S.)
Occupational Therapy Assistant (A.A.S)*

### Gateway Programs Available to Lake County Residents

Aeronautics—Pilot Training (A.A.S.)*
Architectural-Structural Engineering Technician (A.A.S.)
Barber Technologist (Diploma)*
Building Trades-Carpentry (Diploma)
Cosmetology (Diploma)*
Dental Assistant (Diploma)*
Diesel Equipment Mechanic (Diploma)

Diesel Equipment Technology (A.A.S.)
Diesel Mechanic Assistant (Certificate)
Facilities Maintenance (Diploma)
Graphic Communications (A.A.S.)
Industrial/Mobile Hydraulic Mechanic (Certificate)
Interior Design (A.A.S.)
LPN Bridge to ADN (A.A.S.)*

### Lake County Programs Available to Gateway Residents

Automotive Collision Repair (A.A.S. and Certificate)
Dental Hygiene (A.A.S.)
Electrician Apprenticeship (A.A.S.)
Health and Wellness Promotion (A.A.S.)
Health and Wellness Promotion – Personal Training (Certificate)
Health and Wellness Promotion – Wellness Coaching (Certificate)
Laser/Photonics/Optics (Certificate)
Laser/Photonics/Optics – Applied Lasers (Certificate)
Laser/Photonics/Optics – Biophotonics (Certificate)
Machine Tool Trades (A.A.S.)
Medical Imaging (A.A.S.)
Medical Imaging-Magnetic Resonance Imaging (Certificate)
Medical Imaging-Computed Tomography (Certificate)
Paralegal Studies (A.A.S. and Certificate)
Phlebotomy Technician (Certificate)
Sustainable Agriculture (Certificate)
TESOL (Certificate)

*High demand programs—space is limited.*

## Associate of Applied Science Degrees

## Technical Diplomas

## Advanced Technical Certificates

## Shared Programs

**Early Childhood Education p.88**

**Electromechanical Maintenance Technician p.92**

**Fire Medic p.104**

### Special Notices

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take more than seven years to complete.

Tuition and material fees are determined by the Board of the Wisconsin Technical College System. Please consult the Gateway website **gtc.edu** for exact fee amounts.

Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

Course materials listed in this catalog were effective for the 2019-2020 academic year.

Course descriptions are merely general summaries of various courses which may be offered at Gateway Technical College during the 2019-2020 academic year. Gateway reserves the right to modify course content at any time and to cancel any tentatively scheduled course due to low enrollment. Course descriptions were accurate as of February 1, 2019. Some courses offered by Gateway Technical College require successful completion, concurrent enrollment or waiver.

Some courses offered by Gateway Technical College have enrollment which is restricted to persons formally accepted for admission into specific programs.

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**gtc.edu**

# Accounting (10-101-1)
## Associate of Applied Science
### Effective 2019/2020

GATEWAY TECHNICAL COLLEGE

Finance

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

**Accounting**

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 101-100 | | * | Accounting Program Orientation | | | 1 | FA, SP, SU |
| | 101-154 | ☞ | * | Accounting Software Applications | Coreq: 101-112 OR 101-114 OR Instructor Consent | 4 | 2 | FA, SP, SU |
| | 101-114 | ☞ | * | Accounting Principles | | 4 | 4 | FA, SP, SU |
| | 103-143 | | | Computers for Professionals | Prereq: 103-142 OR 860-720 | 2,4 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition I | Prereq: 831-103 | 2,4 | 3 | FA, SP, SU |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 2 | 3 | FA, SP, SU |
| | 101-119 | | * | Payroll Accounting | | 4 | 3 | FA, SP, SU |
| | 101-106 | | * | Accounting Spreadsheet Applications | Prereq: 101-112 OR 101-114; 103-143 OR 103-102 | 4 | 3 | FA, SP, SU |
| | 101-104 | | * | Income Tax Accounting | | 4 | 4 | FA, SP, SU |
| | 101-116 | ☞ | * | Corporate Accounting | Prereq: 101-114; Coreq: 804-135; 801-136; 101-100; 103-143 OR 103-102 | | 3 | FA, SP, SU |
| | 102-160 | | * | Business Law | | 4 | 3 | FA, SP, SU |
| | 101-121 | | * | Intermediate Accounting | Prereq: 804-135; 801-136; Coreq: 101-100; 103-143 OR 103-102 | 4 | | FA, SP, SU |
| | 101-131 | | * | Management Accounting | Prereq: 101-114 | 4 | | FA, SP, SU |
| | 801-196 / 801-198 | OR | | Oral/Interpersonal Communication Speech | | | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Intro to | Prereq: 838-105 | 2,3,4 | 3 | FA, SP, SU |
| | 809-195 / 809-143 | OR | | Economics Microeconomics | Prereq: 838-105 | 2,4 | 3 | FA, SP, SU |
| | 101-105 | | | Accounting Career Readiness | Prereq: 101-131; Coreq: 101-121 | | 2 | FA, SP, SU |
| | 101-103 | OR | | Internship for Accounting | Prereq: Instructor Consent; Coreq: 101-121 | | 2 | |
| | 102-138 | | | BIZ Internship | Prereq: Instructor Consent | | 3 | |
| | 101-155 | | | Financial Analysis/Management | Prereq: 101-106; Coreq: 101-121 | | 3 | FA, SP, SU |
| | 101-107 | | | Accounting Capstone | Prereq: 101-104; 101-119 OR 101-143; 101-121; 101-131; 101-154; Coreq: 101-155 | | 3 | FA, SP, SU |
| | *Take 6 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 6 | FA, SP, SU |
| | | | | | **Minimum Program Total Credits Required** | | **63** | |

☞ = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

# Accounting (10-101-1)

Accounting covers the principles of accounting, including budgeting, financial analysis, cost accounting, tax preparation, and other commercial aspects. Students are taught to interpret figures and what they actually mean to the company or organization. Entry level jobs for the accounting graduate include junior or assistant accountant, bookkeeper, cost accountant, property accountant, and payroll accountant. If taken full-time, this is a two-year course of study.

## Program Learning Outcomes

Graduates will be able to:
1. Apply Generally Accepting Accounting Principles to financial transactions throughout the accounting cycle.
2. Analyze financial and business information to support planning and decision-making.
3. Use a commercial software package to record and report financial information.
4. Prepare payroll journal entries, related reports and filings.
5. Perform cost accounting calculations, journal entries, reporting, and analysis tasks.
6. Perform individual tax accounting preparation, reporting and analysis tasks.
7. Apply employability skills for entry into the accounting field.

## Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

## Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

## Graduation Requirements

1. Minimum 63 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

## Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha | FA |
| Evenings | Kenosha, Elkhorn | FA |
|  | Online | FA, SP, SU |

## Suggested Electives

| | |
|---|---|
| 101-162 Acctg Serving the Public Interest | 806-196 Sociology, Intro to |
| 101-159 Income Tax Accounting II | 101-163 Triple Bottom Line Accounting |
| 102-122 Investments | 114-101 Personal Financial Planning |
| 801-197 Technical Reporting | 809-172 Diversity Studies, Intro to |

## Notes

1. Accounting is a laptop program. Students will need a Windows-Based computer (with a hard drive) for use in the classroom. Please note MAC computers are not compatible with some of the required software.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's Accounting program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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# **Accounting Assistant** (31-101-1)
## Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 101-100 | | * | Accounting Program Orientation | | | 1 | FA, SP, SU |
| | 101-154 | ☞ | * | Accounting Software Applications | Coreq: 101-112 OR 101-114 OR Instructor Consent | 2 | 2 | FA, SP, SU |
| | 101-114 | ☞ | * | Accounting Principles | | 2 | 4 | FA, SP, SU |
| | 103-143 | | | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1,2 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,2 | 3 | FA, SP, SU |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 101-119 | | * | Payroll Accounting | | 2 | 3 | FA, SP, SU |
| | 101-106 | | * | Accounting Spreadsheet Apps. | Prereq: 101-112 OR 101-114; 103-143 OR 103-102 | 2 | 3 | FA, SP, SU |
| | 101-104 | | * | Income Tax Accounting | | 2 | 4 | FA, SP, SU |
| | 101-116 | | * | Corporate Accounting | Prereq: 101-114 Coreq: 804-135; 801-136; 101-100; 103-143 OR 103-102 | | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **29** | |

☞ = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Students who are interested in continuing into the 10-101-1 Accounting program can earn their associate degree by completing an additional 34 credits. Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | On-time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $1,910 | $4,456 | 57% | Bookkeeping, Accounting, and Auditing Clerks (43-3031) |

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Accounting Assistant (31-101-1)

Students who complete this one year technical diploma will be able to compute, classify and record accounting information to keep financial records complete. They will proficiently be able to perform any routine calculating, posting and verifying duties primary to maintaining accurate financial records. Additionally, students will be able to perform general office duties including filing and handling routine correspondence to employees, customers and vendors. Students who complete this technical diploma will be able to obtain employment as an office manager, accounting clerk, bookkeeper, accounting assistant, or accounting associate.

### Program Learning Outcomes

Graduates will be able to:
1. Process financial transactions throughout the accounting cycle.
2. Analyze basic financial and business information to support planning and decision-making.
3. Perform payroll preparation, reporting, and analysis tasks.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 29 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

| | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha, Racine | FA |
| Evenings | Kenosha, Elkhorn, Racine | FA |
| | Online | FA, SP, SU |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.
3. Accounting is a laptop program. Students will need a Windows-Based computer (with a hard drive) for use in the classroom. Please note MAC computers are not compatible with some of the required software.

**GATEWAY** TECHNICAL COLLEGE

# Administrative Professional (10-106-6)
## Associate of Applied Science
### Effective 2019/2020

Business Management & Administration

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

**Administrative Professional**

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 106-021 | | * | Business Office Fundamentals | | | 3 | FA, SU |
| | 106-028 | | * | Office Technologies Essentials | | | 3 | FA, SU |
| | 106-137 | 🎓 | * | Keyboarding Applications | | 3 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,3 | 3 | FA, SP, SU |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 106-024 | 🎓 | * | Professionalism in Business | | | 3 | SP, SU |
| | 106-025 | | * | Spreadsheets for Business | Prereq: 106-137 | | 3 | SP, SU |
| | 106-026 | | * | Business Publications | Prereq: 106-137 | | 3 | SP, SU |
| | 106-030 | | * | Word Processing for Business | Prereq: 106-137 | | 3 | SP, SU |
| | 106-019 | | * | Admin. Services Internship I | Prereq: 106-137 & Instructor Consent Coreq: 106-024; 801-136; 804-135 | | 1 | FA, SP, SU |
| | 801-196 | | | Oral/Interpersonal Communication | | 1 | 3 | FA, SP, SU |
| | 101-112 | OR | | Accounting for Business | | | 3 | FA, SP, SU |
| | 101-114 | | | Accounting Principles | | 3 | 4 | FA, SP, SU |
| | 106-022 | | * | Info Management for Business | Prereq: 106-137 | | 3 | FA, SU |
| | 106-029 | | * | Presentations for Business | Prereq: 106-137 | | 3 | FA, SU |
| | 106-190 | | * | Administrative Office Procedures | Prereq: 106-025 | | 3 | FA, SU |
| | 809-172 | | | Diversity Studies, Introduction to | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 106-020 | *OR | | Admin. Services Internship II | Prereq: 106-137; 106-024 & Instructor Consent | | 1 | FA, SP, SU |
| | 102-138 | | | BIZ Internship | Prereq: Instructor Consent | | 3 | SP |
| | 106-006 | | * | Business Communication Skills | Prereq: 106-137; 106-030; 801-136 | | 3 | SP, SU |
| | 106-023 | | * | Office Management | | | 3 | SP, SU |
| | 106-027 | | * | Integrated Business Projects | Prereq: 106-025; 804-135 | | 3 | SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,2,3 | 3 | FA, SP, SU |
| | 809-195 | OR | | Economics | Prereq: 838-105 | 1,3 | 3 | FA, SP, SU |
| | 809-143 | | | Microeconomics | | | | |
| | | | | **Minimum Program Total Credits Required** | | | **62** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Administrative Professional (10-106-1)

The *Administrative Professional* program prepares individuals to perform administrative and office support activities. Students will develop skills in word processing, spreadsheets, presentation software, filing/records management, and production of business documents. Extensive software skills are acquired, as well as Internet research abilities and oral and written communication skills. Professional development training includes ethics, group interaction, problem-solving, self-awareness, and professionalism.

### Program Learning Outcomes
Graduates will be able to:
1. Demonstrate effective workplace communications.
2. Apply technology skills to business and administrative tasks.
3. Perform routine administrative procedures.
4. Manage administrative tasks.
5. Maintain internal and external relationships.
6. Model professionalism in the workplace.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 62 credits with an average of 2.0 or above.
2. Minimum grade of *2.0 ("C") or above is required for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha, Racine | FA |
|  | Online | FA |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Transfer credits in Social Science may substitute for this course. See an advisor for details.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's Administrative Professional program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs.

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|
| | 531-327 | Advanced EMT | Prereq: 531-326 & Department Consent | 1 | 4 | FA, SP |
| | | *Minimum Program Total Credits Required* | | | *4* | |

**Advanced EMT**

## Advanced EMT (30-531-6)

If you currently hold a State of Wisconsin licensure as an Emergency Medical Technician (EMT), you can pursue additional training in intravenous access, fluid and medication administration, clinical decision making skills, and patient assessment at this advanced level. Upon completion of the didactic, lab, and clinical components of this program, the participant will be eligible for testing and credentialing through the National Registry of Emergency Medical Technicians®.

### Program Learning Outcomes

Graduates will be able to:

1. Understand the legal liabilities and requirements of professional conduct to operate as an Advanced EMT as outlined in HSS 110 of the Wisconsin Administrative Code.
2. Perform a successful assessment, treatment plan, and packaging for both a trauma and medical patient.
3. Perform cardiac arrest management and airway management of the adult and pediatric patient.
4. Demonstrate the ability to interact with patients in a compassionate and professional manner.
5. Understand and demonstrate safe practice in the administration of approved medications via the enteral and parenteral routes
6. Integrate the appropriate use of intravenous fluids, and demonstrate safe administration of medication in the treatment of adult and pediatric patients.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must submit a current CPR certification.
3. Students must have current Wisconsin EMS licensure.
4. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements

1. Minimum 4 credits with an average of 2.0 or above.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | HERO Center | FA, SP |
| Evenings | HERO Center | FA, SP |

### Notes

1. A valid Wisconsin EMT license will be accepted in place of 531-326.
2. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

**EQUAL OPPORTUNITY EMPLOYER AND EDUCATOR/EMPLEADOR Y EDUCADOR QUE OFRECE IGUALDAD DE OPORTUNIDADES**

# Advanced Manufacturing Technology (10-664-2)
## Associate of Applied Science
### Effective 2019/2020

The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 664-110 | 🎓 | * | Intro to Mechatronics | | | 2 | FA, SU |
| | 664-100 | 🎓 | * | Intro to Industrial Control Systems | | | 2 | FA, SU |
| | 605-113 | | * | DC/AC I | | | 3 | FA |
| | 664-115 | | * | Interpreting Engineering Drawings | | | 2 | FA |
| | 804-115 | 🎓 | | College Technical Math 1 | Prereq: 834-110 | 1,2 | 5 | FA |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,2 | 3 | FA |
| | 664-105 | 🎓 | * | Intro to Industrial Robots | | | 2 | SP, SU |
| | 664-120 | 🎓 | * | Intro to Industrial Internet of Things (IIot) | | | 2 | SP, SU |
| | 605-114 | 🎓 | * | DC/AC II | Prereq: 605-113 Coreq: 804-115 | | 3 | SP |
| | 605-130 | | * | Digital Electronics | Coreq: 605-114 | | 4 | SP |
| | 664-102 | | * | Motor Controls for Advanced Manufacturing | Prereq: 664-100 Coreq: 801-136 | | 3 | SP |
| | 809-195 | | | Economics | Prereq: 838-105 | 1,4 | 3 | FA, SP, SU |
| | 664-111 | | * | Machine Mechanisms | Prereq: 664-100; 664-110; 804-115 | | 3 | FA |
| | 605-136 | | * | PLC System Design | Prereq: 605-130 | | 3 | FA |
| | 664-117 | | * | Materials and Processes | Prereq: 664-100; 664-110; 801-136 | | 2 | FA |
| | 664-116 | | * | Intro to Mfg Quality Control Systems | Prereq: 664-115 | | 2 | FA |
| | 664-121 | | * | Vision and Smart Sensors | Prereq: 605-130; 664-102 | | 2 | FA |
| | 801-198 | | | Speech | | 1 | 3 | FA |
| | 606-160 | | * | Fluid Power and Design | | | 3 | SP |
| | 664-122 | | * | Engineering Project Management | Prereq: 801-136 | | 2 | SP |
| | 664-112 | | * | Fundamentals of Machining Processes | | | 3 | SP |
| | 664-101 | | * | PLC Industrial Control System Applications | Prereq: 605-136; 664-102 | | 2 | SP |
| | 606-138 | | * | Design Problems | Prereq: Instructor Consent; 801-136 | | 2 | SP |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,2,4 | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **64** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Advanced Manufacturing Technology (10-664-2)

Advanced Manufacturing Technology combines mechanical, electronic, and information technology into a single discipline that crosses the traditional boundaries of a skilled technician. Advanced Manufacturing technicians need a broad understanding of mechanical and electrical principles, and the use of data to optimize the manufacturing process through intelligent automation. These industry certifications are embedded in the program: Snap on Hand tool Safety, Snap on Multimeter, OSHA 10, and Starrett Precision Measurement.

### Program Learning Outcomes

Graduates will be able to:
1. Apply state and national safety rules to the manufacturing systems environment.
2. Analyze automation within a complex manufacturing system.
3. Manage advanced manufacturing systems for operational efficiency and cost control.
4. Analyze technical specifications for implementation of manufacturing systems, modules, and components.
5. Explore a Proportional Integral Derivative (PID) control system to achieve a desired outcome in a manufacturing outcome.
6. Integrate industrial control systems into manufacturing processes.
7. Apply electronic principles to devices within a complex manufacturing systems.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs.  All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 64 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | iMET, Elkhorn | FA |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A credit for prior learning assessment is available for this course. For more information, contact cfpl@gtc.edu.
3. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days before the program start to obtain prescription and glasses.
4. Transfer credits in Social Science may substitute for this course. See an advisor for details.

Foxconn preferred programs prepare students for potential career opportunities at Foxconn. Completion of a preferred program does not guarantee employment.

# Aeronautics – Pilot Training (10-402-1)
## Associate of Applied Science
### Effective 2019/2020

**Transportation, Distribution & Logistics**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 402-140C | | * | Flight Private Pilot A | Prereq: Dept. Consent Coreq: 402-129 | 7,8,10 | 1 | FA, SP, SU |
| | 402-129 | 🎓 | * | Aviation / Introduction | | 7 | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,7 | 3 | FA, SP, SU |
| | 402-139 | | * | Aero Science – Engine/ Structure/ System | | | 3 | FA |
| | 402-140D | 🎓 | * | Flight Private Pilot B | Prereq: Dept. Consent; 402-140C | 7,8,10 | 2 | FA, SP, SU |
| | 402-136 | | * | Aero Science – Aviation Weather | Coreq: 402-129 | | 3 | SP |
| | 402-137 | | * | Aero Science – Instrument | Prereq: 402-140 OR 402-140D | | 3 | FA, SP |
| | 402-170 | 🎓 | * | Professional Piloting I | Prereq: Dept. Consent; 402-140C; 140D Coreq: 402-137 | 8,10 | 3 | FA, SP, SU |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 402-173 | | * | Professional Piloting II | Prereq: Dept. Consent Coreq: 402-137 | 8,10 | 2 | FA, SP, SU |
| | 402-133 | | * | Aero Science – Commercial | Prereq: 402-140 OR 402-140D | | 3 | FA |
| | 402-135 | | * | Aero Science – Aerophysics/Aerodynamics | Prereq 804-135; 801-136 | | 3 | FA |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,6,7 | 3 | FA, SP, SU |
| | 801-198 | | | Speech | | 1 | 3 | FA, SP, SU |
| | 402-175 | | * | Professional Piloting III | Prereq: Dept. Consent; 402-173 Coreq: 402-133 | 8,10 | 2 | FA, SP, SU |
| | 402-177 | | * | Professional Piloting IV | Prereq: Dept. Consent; 804-135; 801-136; Coreq: 402-175 | 8,10 | 2 | FA, SP, SU |
| | 402-138 | | * | Aero Science – Aviation Safety | | | 3 | FA |
| | 402-120 | | | Aero Decision Making | Prereq: Dept. Consent; 402-173; Coreq: 402-138 | | 2 | SP |
| | 402-123 | | | Aircraft Systems – Advanced | Prereq: 402-139 | | 2 | SP |
| | 402-131 | | | Aero Science Fund/Instr. | Prereq: 402-140D | | 2 | SP |
| | 402-145 | | | Flight-Certified Flight Instructor | Prereq: Dept. Consent; 402-177 Coreq: 402-131; 134 | 10 | 2 | FA, SP, SU |
| | 402-134 | | | Aero Science Certified Flight Inst. Airplane | Coreq: 402-145 | | 2 | FA |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,6,7 | 3 | FA, SP, SU |
| | 402-146 | | | Flight Certified Flight Instructor Instrument | Prereq: Dept. Consent; 402-145 | 10 | 2 | FA, SP, SU |
| | | | | | **Minimum Program Total Credits Required** | | **65** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Aeronautics – Pilot Training (10-402-1)

*Aeronautics-Pilot Training* develops the skills and knowledge, through academic and practical application, necessary for an entry-level career as a professional pilot. Required aircraft training and electives include commercial certificate with single engine, multi-engine, and instrument ratings, and certified flight instructor certificate with single engine, multi-engine, and instrument ratings. Actual certification is dependent upon successful completion of an external assessment by the individual student.

### Program Learning Outcomes
Graduates will be able to:
1. Maintain compliance with procedures and practices contained in the Federal Aviation Regulations (FAR's), Aeronautical Information Manual (AIM), and other applicable FAA publications. Criteria– You must pass the practical tests for instrument rating airplane, commercial pilot airplane multi-engine land and commercial pilot single-engine land.
2. Obtain the Federal Aviation Administration (FAA) certification as a Commercial Pilot for single and multi-engine land planes with an instrument rating. Criteria – You must comply with as well as explain the purpose and value of instrument rating airplane and commercial pilot airplane procedures and practices.
3. Demonstrate Single-pilot Resource Management (SRM). Criteria – You must demonstrate task management, risk management, situational awareness, aeronautical decision-making, controlled flight into terrain awareness and automation management.
4. Act as a professional member of the aviation community. Criteria – You must act professional at all times, be sincere, present a professional appearance and personal habits, maintain a calm demeanor, practice safety and accident prevention at all times, use appropriate language, continue professional development, admit errors and be punctual.
5. Obtain the Federal Aviation Administration (FAA) certification as a Certificated Flight instructor for single- and multi-engine land planes with an instrument rating. Criteria – You must comply with as well as explain the purpose and value of CFI-ASEL and CFI-Instrument procedures and practices.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 65 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|       | Location(s)    | Starting Term(s) |
|-------|----------------|------------------|
| Days  | Horizon Center | FA               |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Students must maintain a 2.0 GPA in Aviation Core courses (402 courses) to continue with flight training.
3. A student supplied tablet computer is required for all flight courses. Please contact the department prior to purchasing a tablet for the minimum specification sheet.
4. A valid FAA 3rd class (or higher) medical certificate is required prior to beginning any flight course.
5. Proof of U.S. Citizenship or TSA approval required prior to beginning any flight course.
6. Transfer credits in Social Science may substitute for this course. See an advisor for details.
7. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.
8. Students must meet current petition requirements at the time they are eligible to enroll in 402 courses.
9. Students are selected for core courses based on completion of academic eligibility requirements and district residency. See https://www.gtc.edu/admissions/additional-resources/petitioning/petitioning-eligibility.
10. In order to meet the FAA requirements for proficiency, and to successfully complete the course under FAA Part 141, students may need to enroll in a non-degree course to purchase additional flight time.

| Number | Course Title | Credits | Tuition | Check Rides | Flight Fees | Total Course Cost | Lec | Lab | SE Flight | ME Flight | AATD | Disc | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| — **Aeronautics - Pilot Training Associate Degree Program Course Costs ** In-State Rates current until April 30, 2019 - ** Does not include books or other supplies** | | | | | | | | — **Aeronautics - Pilot Training Associate Degree Hours** | | | | | |
| 402-129 | Aviation/Introduction | 3 | $ 641.16 | N/A | N/A | $ 641.16 | 36 | 36 | N/A | N/A | N/A | N/A | 72 |
| 402-120 | Aero Decision Making | 2 | $ 427.44 | N/A | $ 262.50 | $ 689.94 | 18 | 36 | N/A | N/A | N/A | N/A | 54 |
| 402-122 | Aircraft Systems - Advanced | 2 | $ 435.66 | N/A | N/A | $ 430.11 | 54 | N/A | N/A | N/A | N/A | N/A | 54 |
| 402-133 | Aero Science - Commercial | 3 | $ 641.16 | N/A | N/A | $ 635.61 | 36 | 36 | N/A | N/A | N/A | N/A | 72 |
| 402-135 | Aero Science - Aerophysics/Aerodynamics | 3 | $ 435.66 | N/A | N/A | $ 435.66 | 54 | N/A | N/A | N/A | N/A | N/A | 54 |
| 402-136 | Aero Science - Aviation Weather | 3 | $ 435.66 | N/A | N/A | $ 435.66 | 36 | 36 | N/A | N/A | N/A | N/A | 72 |
| 402-137 | Aero Science - Instrument | 3 | $ 641.16 | N/A | N/A | $ 641.16 | 36 | 36 | N/A | N/A | N/A | N/A | 72 |
| 402-138 | Aero Science - Aviation Safety | 3 | $ 435.66 | N/A | N/A | $ 430.11 | 54 | N/A | N/A | N/A | N/A | N/A | 54 |
| 402-139 | Aero Science - Engine/Structure/System | 3 | $ 435.66 | N/A | N/A | $ 435.66 | 54 | N/A | N/A | N/A | N/A | N/A | 54 |
| 402-140C | Flight Private Pilot A | 1 | $ (367.11) | N/A | $ 2,827.50 | $ 2,460.39 | N/A | N/A | 13.5 | N/A | 6 | 11 | 30.5 |
| 402-140D | Flight Private Pilot B | 2 | $ (47.90) | $ 500.00 | $ 7,027.50 | $ 7,479.60 | N/A | N/A | 41.5 | N/A | 4 | 19 | 64.5 |
| 402-170 | Professional Piloting I | 3 | $ 5,108.28 | $ - | FALSE | $ 5,108.28 | N/A | N/A | N/A | 12 | 31.5 | 38.5 | 82 |
| 402-173 | Professional Piloting II | 2 | $ (105.48) | $ 600.00 | $ 6,532.50 | $ 7,027.02 | N/A | N/A | 40 | N/A | 4 | 18.5 | 62.5 |
| 402-175 | Professional Piloting III | 2 | $ (172.63) | $ - | $ 12,125.00 | $ 11,952.37 | N/A | N/A | 26 | 23 | 3 | 12 | 64 |
| 402-177 | Professional Piloting IV | 2 | $ 427.44 | $ 1,100.00 | $ 8,575.00 | $ 10,102.44 | N/A | N/A | 31 | 11 | 8.5 | 23 | 73.5 |
| 402-131 | Aero Science-Fundamentals/Instruction | 2 | $ 427.44 | N/A | N/A | $ 427.44 | 18 | 36 | N/A | N/A | N/A | N/A | 54 |
| 402-134 | Aero Science Certified Flight Instructor Airplane | 2 | $ 427.44 | N/A | N/A | $ 427.44 | 18 | 36 | N/A | N/A | N/A | N/A | 54 |
| 402-145 | Flight Certified Flight Instructor | 2 | $ 427.44 | $ 1,200.00 | $ 7,207.71 | $ 8,485.15 | N/A | N/A | 12.5 | 15 | 6 | 44.5 | 78 |
| | **Total** | **43** | | | | **$ 58,245.20** | **414** | **252** | **165** | **61** | **63** | **167** | **1121** |

Aeronautics: Pilot Training Associate Degree Course Costs
(per 38 C.F.R 29.9505) as required by the Department of Veterans Affairs.

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# **GATEWAY** TECHNICAL COLLEGE

## **Arboriculture/Urban Forestry Technician** (10-001-5)
### Associate of Applied Science
### **Effective 2019/2020**

*Agriculture, Food & Natural Resources*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 001-133 | | * | Chainsaw Safety and Operation | | | 2 | FA |
| | 001-173 | ☞ | * | Urban Tree Maintenance | | | 2 | FA |
| | 001-124 | ☞ | * | Fundamentals of Aerial Tree Work | | | 2 | FA |
| | 001-118 | ☞ | * | Landscape Plant ID | | | 2 | FA |
| | 103-143 | | | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1,3 | 3 | FA |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA/SP/SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,3 | 3 | FA/SP/SU |
| | 001-110 | ☞ | * | Tree Growth and Development | Prereq: 001-118 Coreq: 801-136; 804-135; 001-185 | | 2 | SP |
| | 001-156 | | * | Tree Care Practicum 1 | Prereq: 001-124; 133; 173 | | 2 | SP |
| | 001-185 | | * | Intro to Horticulture | | | 3 | SP |
| | 001-186 | | * | People, Resources, and Sustainability | | | 3 | SP |
| | 001-188 | ☞ | * | Integrated Pest Management | | | 2 | SP |
| | 001-184 | | * | Ecological Basis for Natural Resource Management | | | 3 | SP |
| | 001-105 | | * | Dendrology and Silvics | Prereq: 001-118; 801-136; 804-135 | | 3 | FA |
| | 001-157 | | * | Tree Care Practicum 2 | Prereq: 001-156 | | 2 | FA |
| | 001-136 | | * | Landscape Management | | | 3 | FA |
| | 001-199 | | * | Fish, Forestry, and Wildlife | | | 3 | FA |
| | 809-166 809-195 | **OR** | | Intro to Ethics: Theory and Apps Economics | Prereq: 838-105 | 1 | 3 | FA/SP/SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA/SP/SU |
| | 001-113 | | * | Ornamental Plant Health Care | Prereq: 001-118; 188; 105 | | 3 | SP |
| | 001-115 | | * | Tree Care Capstone | Prereq: 001-157; 105 | | 1 | SP |
| | 001-183 | | * | Applied Urban Forestry | Prereq: 001-110; 173; 105 | | 2 | SP |
| | 001-198 | | * | Intro to Soil and Water Resources | Prereq: 001-185; 184; 186 | | 3 | SP |
| | 809-198 | | | Psychology, Intro to | Prereq: 838-105 | 1,3 | 3 | FA/SP/SU |
| | 801-196 801-198 | **OR** | | Oral/Interpersonal Communication Speech | | 1 | 3 | FA/SP/SU |
| | | | | **Minimum Program Total Credits Required** | | | **64** | |

☞ = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Arboriculture/Urban Forestry Technician (10-001-5)

The *Arboriculture/Urban Forestry Technician* associate degree prepares individuals for year-round, entry level work in tree care operations as an Arborist (commercial, municipal, golf course, utility), or a person who maintains tree health and improves tree growing conditions in the urban environment. Through exploration of natural resources, arboriculture, and urban forestry, students acquire skills in tree and plant biology, tree and plant identification, insect and disease management, aerial tree pruning and removal (tree climbing is optional), and tree planting. Students will operate tools and equipment used within the industry according to safety standards. Through coursework, students may become Wisconsin certified pesticide applicators. Summer employment in industry is available and encouraged between spring and fall semesters.

### Program Learning Outcomes
Graduates will be able to:
1. Diagnose ornamental plant disorders.
2. Identify wood plants by common and scientific names.
3. Apply tree biology for arboricultural maintenance practices.
4. Adhere to industry safety standards.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, computer skills, and math assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 64 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha | FA |

### Suggested Electives
104-101 Marketing Principles
104-104 Selling Principles
102-137 Intro to Business

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Gateway has many articulation agreements with four-year colleges and universities. If you are planning on transferring to a four-year institution please review this information online at gtc.edu/transfer. If an institution is not listed please contact them directly to see which courses transfer. You may also contact your advisor for more information.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

# Architectural – Structural Engineering Technician (10-614-6)
## Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 607-141 | | OR* | Construction Basics | | | 2 | FA |
| | 607-103 | | | Introduction to Civil Engineering & Architecture | | 6 | | |
| | 607-104 | 🎓 | * | Building Material & Construction Method | | | 3 | FA |
| | 804-135 | 🎓 | OR | Quantitative Reasoning | Prereq: 834-109 | | 3 | FA, SP, SU |
| | 804-115 | | | College Technical Math 1 | Prereq: 834-110 | 1 | 5 | |
| | 607-169 | | * | Surveying Basics | | 1 | 2 | FA |
| | 607-102 | | * | Conflict Resolution in CET | | 6 | 2 | FA |
| | 607-136 | 🎓 | * | Construction Project Management | | | 2 | FA |
| | 607-132 | 🎓 | * | Structural Mechanics | Prereq: 804-135 | | 3 | SP |
| | 801-136 | 🎓 | | English Composition 1 | Prereq: 831-103 | 1,6 | 3 | FA, SP, SU |
| | 607-170 | | * | AutoCAD for Construction Sciences | | 6 | 2 | SP |
| | 614-102 | | * | Capstone: Construction Project Management | Prereq: 607-136 | 2 | 2 | SP |
| | 607-128 | | * | Construction Estimating | Prereq: 804-135; Coreq: 801-136 | | 3 | SP |
| | 607-129 | | * | Future Trends Civil/Archi Tech | Prereq: 607-104; 141; 169 | | 2 | SP |
| | 607-148 | | * | Wood-Design & Detailing | Prereq: 607-132 | | 1 | SU |
| | 809-195 | | | Economics | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 614-150 | 🎓 | * | 3D CAD: Building Information Moldeling | | | 2 | SU |
| | 607-187 | | * | 3D CAD: Dig Terrain Model | | | 2 | SU |
| | 607-134 | | * | Steel - Design and Detailing | Prereq: 607-132 | | 2 | FA |
| | 614-108 | | * | Residential Code | Prereq: 801-136 | | 1 | FA |
| | 614-110 | | * | Architectural Drafting – Residential | Prereq: 614-150; Coreq: 614-108 | | 3 | FA |
| | 614-140 | | * | Mechanical Systems for Buildings | Prereq: 607-104 | | 3 | FA |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,5,6 | 3 | FA, SP, SU |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 607-135 | | * | Reinforced Concrete-Design & Detailing | Prereq: 607-132 | | 2 | SP |
| | 614-107 | | * | Residential and Commercial Inspection | Prereq: 607-104; 614-108; Coreq: 614-114 | | 3 | SP |
| | 614-114 | | * | Commercial Code | Prereq: 801-136 | | 2 | SP |
| | 614-115 | | * | Architectural Drafting – Commercial | Prereq: 614-150; Coreq: 614-114 | | 3 | SP |
| | 614-123 | | * | Capstone: Architectural Structural Tech | Prereq: 607-134 or 614-100 Coreq: 614-115; 607-135 or 614-101 | | 1 | SP |
| | 614-138 | | * | 3D Modeling and virtualization | Prereq: 614-150; 607-187 | | 1 | SP |

| | **Minimum Program Total Credits Required** | **64** | |
|---|---|---|---|

**AVAILABLE CONCENTRATION: CONSTRUCTION PROJECT MANAGEMENT**

| Instead of these courses | Take these alternates | Requisites | Credits | Terms Offered |
|---|---|---|---|---|
| 607-134 Steel-Design and Detailing | *614-100 Construction Industry Safety | | 1 | FA |
| 607-148 Wood-Design and Detailing | *614-101 Construction Contract Law | Prereq: 614-100; 607-136 | 2 | FA |
| 607-135 Reinforced Concrete-Design and Detailing | *614-102 Capstone: Construction Project Management | Prereq: 607-136; Coreq: 614-123 | 2 | SP |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Architectural – Structural Engineering Technician (10-614-6)

*Architectural-Structural Engineering Technician* focuses on a wide variety of aspects within the profession of Civil Engineering – beginning with surveying, transitioning into design, and resulting in construction. The first year classes are mostly the same for programs in the Construction Sciences Group (see notes). Basic skills are developed and students are exposed to all areas of the various professions. This allows the student to be able to understand and communicate across the professions, plus it allows the student to discover what area they really enjoy working in. The second year focuses on aspects specific to buildings, both design and structural components. The program is designed as a fusion of education and application; hence all the core classes are tied to real world experiences with a significant influx of participation from potential future employers. Some students use this program as a place to prepare themselves to transfer to a four year university. Most, however, use this program as a means to develop the skills that allow them to obtain a productive career in various aspects of architecture.

### Program Learning Outcomes
Graduates will be able to:
1. Develop Construction Documents
2. Evaluate Building Materials
3. Develop building designs
4. Integrate building systems

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 64 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | iMET, Elkhorn | FA |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. This is a very intense and challenging program. Poor existing skills, especially poor math skills, can always be improved. As long as you have the heart and desire to succeed, the instructors will work with you.
3. Classes offered at Elkhorn Campus via NODAL delivery. See www.gtc.edu for details.
4. The programs in the Construction Science Group include: Civil Engineering Tech: Highway Technology, Architectural-Structural Engineering Technician, and Civil Engineering Technology: Fresh Water Resources.
5. Transfer credits in Social Science may substitute for this course. See an advisor for details.
6. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Architectural–Structural Engineering Technician

# Automotive Maintenance Technician (31-404-3)
## Technical Diploma
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 602-130 | 🎓 | * | Auto Shop Essentials | | | 3 | FA, SP |
| | 602-107 | | * | Auto Service Fundamentals | Prereq: 602-130 | 4 | 2 | FA, SP |
| | 602-104 | | * | Brake Systems | Prereq: 602-107; 130 | 4 | 3 | FA, SP |
| | 602-124 | | * | Steering & Suspension Systems | Prereq: 602-107; 130 | 4 | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,4 | 3 | FA, SP, SU |
| | 602-125 | 🎓 | * | Electrical & Electronic Systems 1 | Prereq: 602-107; 130 Coreq: 804-135 | 4 | 2 | FA, SP |
| | 602-127 | | * | Electrical & Electronic Systems 2 | Prereq: 602-125 Coreq: 801-136 | | 3 | FA, SP |
| | 602-196 | | * | Climate Control Systems | Prereq: 602-127 | 4 | 3 | FA, SP |
| | 602-204 | | * | Engine Repair 1 | Prereq: 602-107; 130 | 4 | 3 | FA, SP |
| | 801-196 | | | Oral/Interpersonal Communication | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **31** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-602-3 Automotive Technology program can earn their associate degree by completing an additional 34 credits. Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | On-Time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $4,071 | $5,979 | 44% | Automotive Service Technicians and Mechanics (49-3023) |

[2] On-time Graduation Rate: Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Automotive Maintenance Technician (31-404-3)

*Automotive Maintenance Technician* gives an overview of essential servicing techniques, including the testing, repairing, and rebuilding of basic automotive systems. Graduates of this program have the skills necessary for entry-level employment at automotive repair facilities and retail service centers or to pursue an Associate of Applied Science degree in a two-year automotive program. The student will be prepared to take up to four ASE tests in the following areas: brakes, suspension and steering, heating and air conditioning, and electrical systems. Special emphasis will be placed on mechanical relationships and basic engine performance. Students will be able to apply the techniques learned in lectures in an automotive shop laboratory setting. This will be accomplished in a simulated work environment.

### Program Learning Outcomes
Graduates will be able to:
1. Diagnose, service, and repair Suspension and Steering systems of light duty vehicles.
2. Diagnose, service, and repair Brake systems of light duty vehicles.
3. Diagnose, service, and repair Heating, Ventilating and Air Conditioning systems of light duty vehicles.
4. Diagnose and service Gasoline Engines of light duty vehicles.
5. Service Engine Performance related systems of light duty vehicles.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 31 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
| --- | --- | --- |
| Days | Horizon Center | FA |
| Evenings | Horizon Center | FA, SP |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Safety glasses are required in labs. If prescription safety glasses are needed, allow at least 90 days before the program start to obtain prescription and glasses.
3. A student supplied tablet computer is required for all 602 courses. Please contact the department prior to purchasing a computer for the minimum specification sheet.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

## Automotive Technology (10-602-3)
### Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 602-130 | 🎓 | * | Auto Shop Essentials | | | 3 | FA, SP |
| | 602-107 | | * | Auto Service Fundamentals | Prereq: 602-130 | 5 | 2 | FA, SP |
| | 602-104 | | * | Brake Systems | Prereq: 602-107; 130 | 5 | 3 | FA, SP |
| | 602-124 | | * | Steering & Suspension Systems | Prereq: 602-107; 130 | 5 | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,5 | 3 | FA, SP, SU |
| | 602-125 | 🎓 | * | Electrical & Electronic Systems 1 | Prereq: 602-107; 130 Coreq: 804-135 | 5 | 2 | FA, SP |
| | 602-127 | | * | Electrical & Electronic Systems 2 | Prereq: 602-125; Coreq: 801-136 | | 3 | FA, SP |
| | 602-196 | | * | Climate Control Systems | Prereq: 602-127 | 5 | 3 | FA, SP |
| | 602-204 | | * | Engine Repair 1 | Prereq: 602-107; 130 | 5 | 3 | FA, SP |
| | 801-196 | | | Oral/Interpersonal Communication | | 1 | 3 | FA, SP, SU |
| | 602-197 | | * | Engine Performance 1 | Prereq: 602-127; 204; 801-136; 804-135 | 5 | 3 | FA, SP, SU |
| | 602-129 | | * | Auto Scope and Scanner Diagnosis | Prereq: 602-197 | | 3 | FA, SP, SU |
| | 602-128 | | * | Electrical & Electronic Systems 3 | Prereq: 602-127 | | 3 | FA, SP, SU |
| | 602-149 | | * | Manual Drive Train & Axles | Prereq: 602-107; 130 | | 4 | FA, SP, SU |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,4,5 | 3 | FA, SP, SU |
| | 602-195 | | * | Advanced Chassis Systems | Prereq: 602-104; 124; 127 | | 2 | FA, SP |
| | 602-205 | | * | Engine Repair 2 | Prereq: 602-204 | | 2 | FA, SP |
| | 602-109 | | * | Auto Transmission/Transaxle | Prereq: 602-127 | 5 | 4 | FA, SP |
| | 602-198 | | * | Engine Performance 2 | Prereq: 602-197 | 5 | 4 | FA, SP |
| | 602-120 / 602-131 | | *OR | Auto Service Simulation / Automotive Service Internship | Prereq: 602-104; 124; 128; 129; 196; 198; 205 | | 2 | FA, SP |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,4,5 | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **64** | |

Students enrolling in classes for the night start in the fall will attend 3rd semester over the summer and finish their degree in 18 months.

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Automotive Technology (10-602-3)

*Automotive Technology* is a two-year repair and maintenance curriculum, totaling over 1,800 hours of automotive instruction. Students desiring to become entry-level line technicians at automotive dealerships or independent repair facilities will be prepared for ASE Master Certification in all areas of automotive mechanical repairs. Students will become competent in engine performance, engine repair, manual and automatic drive lines, transmissions and transaxles, electrical systems, and electronics, using a simulated work environment on vehicles.

### Program Learning Outcomes

Graduates will be able to:

1. Demonstrate professionalism appropriate to the auto service industry.
2. Perform diagnosis, service and repair of automotive internal combustion engines.
3. Perform diagnosis, service and repair of automotive automatic transmission / transaxle systems.
4. Perform diagnosis, service and repair of automotive manual drive train and axles systems.
5. Perform diagnosis, service and repair of automotive steering and suspension steering systems.
6. Perform diagnosis, service and repair of automotive brake systems.
7. Perform diagnosis, service and repair of auto electrical/electronic systems.
8. Perform diagnosis, service and repair of automotive heating and air conditioning systems.
9. Perform diagnosis, service and repair of automotive engine performance systems.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 64 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
| --- | --- | --- |
| Days | Horizon Center | FA |
| Evenings | Horizon Center | FA, SP |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A student supplied tablet computer is required for all 602 courses. Please contact the department prior to purchasing a computer for the minimum specification sheet.
3. Safety glasses are required in labs. If prescription safety glasses are required, allow a minimum of 90 days before the program start to obtain prescription and glasses.
4. Transfer credits in Social Science may substitute for this course. See an advisor for details.
5. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

## Barber Technologist (30-502-5)
Technical Diploma
**Effective 2019/2020**

*Human Services*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 502-736 | | * | Barber Industry | Prereq: Instructor Consent | | 2 | FA, SU |
| | 502-742 | 🎓 | * | Intro to Barbering | Prereq: Instructor Consent | | 1 | FA, SU |
| | 502-738 | 🎓 | * | Basic Haircutting | Prereq: Instructor Consent | | 2 | FA, SU |
| | 502-735 | | * | Advanced Haircutting | Prereq:  502-738 | | 2 | FA, SU |
| | 502-741 | | * | Hairstyling | Prereq: Instructor Consent | | 2 | FA, SU |
| | 502-740 | | * | Hair Color | Prereq: Instructor Consent | | 2 | FA, SU |
| | 502-743 | | * | Shaving | Prereq: Instructor Consent | | 2 | FA, SU |
| | 502-739 | | * | Chemical Texturing | Prereq: Instructor Consent | | 2 | FA, SU |
| | 502-730 | | * | Client Services 1 | Prereq: 502-736; 742; 738; 735; 741; 740; 743; 739 & Instructor Consent | | 2 | FA, SP |
| | 502-731 | | * | Client Services 2 | Prereq: 502-736; 742; 738; 735; 741; 740; 743; 739 & Instructor Consent | | 2 | FA, SP |
| | 502-732 | | * | Client Services 3 | Prereq: 502-736; 742; 738; 735; 741; 740; 743; 739 & Instructor Consent | | 2 | FA, SP |
| | 502-733 | | * | Client Services 4 | Prereq: 502-736; 742; 738; 735; 741; 740; 743; 739 & Instructor Consent | | 2 | FA, SP |
| | 502-734 | | * | Client Services 5 | Prereq: 502-736; 742; 738; 735; 741; 740; 743; 739 & Instructor Consent | | 2 | FA, SP |
| | | | | | ***Minimum Program Total Credits Required*** | | | ***25*** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $2,730 | $4,160 | Barbers (39-5011) |

## Barber Technologist (30-502-5)

The *Barber Technologist* program offers a variety of courses such as Haircutting, Shaving, Styling, Color, Chemical Texture Services, and Male Facials. In addition to barber ownership or barber management, one can choose from positions in sales, advertising, research, and education. The possibilities are unlimited and so is the income potential. The Barber Technologist program is a two-semester program consisting of 1,080 hours of instruction.

### Program Learning Outcomes
Graduates will be able to:
1. Apply safety and sanitation procedures.
2. Adhere to the current Wisconsin Administrative Codes and Statutes for barbers.
3. Demonstrate interpersonal skills for success.
4. Identify hair and scalp disorders.
5. Perform haircutting services.
6. Demonstrate shaving and other facial removal techniques.
7. Perform male facial procedures.
8. Perform texture services.
9. Perform hair color services
10. Demonstrate hairstyling and finishing techniques.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading (min. score 237), writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.
4. Students must complete a functional ability form verifying that they have read and understand the functional abilities for the program.

### Graduation Requirements
1. Minimum 25 credits with an average of 2.0 or above.
2. *A minimum of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha | FA |
| Days | Burlington | SU |

### Notes
1. This is a high-demand program with limited openings.
2. This program requires two semesters to complete 1,080 hours on a full-time basis.
3. Students are required to purchase regulation uniforms.
4. Supplies and materials are required for this program. All must be purchased prior to beginning the first day of program.
5. Students must be 18 years of age or a high school graduate to take the state licensure exam.
6. Students must complete all classroom portions of instruction before beginning any of the client services courses.
7. All new students must attend a mandatory orientation prior to registering for courses.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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**Building Trades – Carpentry** (31-475-1)
Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 475-300 | | * | Building Construction, Intro | | | 3 | FA, SP |
| | 475-301 | | * | Building Construction, Fundamentals | | | 5 | FA, SP |
| | 475-302 | 🎓 | * | Residential Print Reading | Coreq: 804-370 | | 2 | FA, SP |
| | 475-303 | 🎓 | * | Framing Techniques 1 | | | 3 | FA, SP |
| | 804-370 | | | Mathematics I / Applied | Prereq: 854-760 | 2 | 2 | FA, SP |
| | 442-314 | | | Welding, Fundamentals of | | | 2 | FA, SP, SU |
| | 475-304 | | * | Commercial Print Reading | Prereq: 475-302; Coreq: 801-301 | | 1 | FA, SP |
| | 475-305 | | * | Framing Techniques 2 | Prereq: 475-303; 804-370 | | 3 | FA, SP |
| | 475-306 | | * | Exterior Trim | Prereq: 475-301; 302 | | 3 | FA, SP |
| | 475-307 | | * | Interior Trim | Prereq: 475-301; 302 | | 5 | FA, SP |
| | 801-301 | | | Writing Principles | Prereq: 851-760 | 2 | 1 | FA, SP, SU |
| | 801-302 | | | Speaking Principles | | | 1 | SP |
| | | | | **Minimum Program Total Credits Required** | | | **31** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Building Trades - Carpentry (31-475-1)

The *Building Trades - Carpentry* program provides the student with the knowledge and skills necessary for job success in the industry. Fundamentals of industry materials, building design, and layout operation are taught in the classroom. The use of hand and power tools is developed in the shop. Construction techniques are developed in the shop. Related mathematics, blueprint reading and welding are included in the training.

### Program Learning Outcomes

Graduates will be able to:
1. Practice construction safety principles.
2. Operate construction related tools.
3. Evaluate construction prints and drawings.
4. Construct building systems.
5. Apply construction measurement principles to building applications.
6. Calculate materials needed to complete a specified job.
7. Evaluate a finished job for quality of product.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 31 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha | FA, SP |

### Notes

1. Students will be required to purchase a variety of personal safety items and hand tools that will be utilized throughout the program. Specifications for those hand tools will be provided by the instructor at the beginning of the program, and should not be purchased in advance of the start of the program.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.

# Business Management (10-102-3)
## Associate of Applied Science
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 101-114 | * | Accounting Principles | | 3 | 4 | |
| | 101-112 | | **OR** Accounting for Business | (Take 101-114 OR 101-112 & 103-103) | | 3 | FA, SP, SU |
| | 103-103 | *AND | Excel II | | | 1 | |
| | 102-137 | * | Intro to Business | | 3 | 3 | FA, SP, SU |
| | 102-160 | 🎓 * | Business Law | | 3 | 3 | FA, SP, SU |
| | 103-143 | * | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1,3 | 3 | FA, SP, SU |
| | 801-136 | | English Composition 1 | Prereq: 831-103 | 1,3 | 3 | FA, SP, SU |
| | 104-101 | * | Marketing Principles | | 3 | 3 | FA, SP, SU |
| | 104-104 | * | Selling Principles | | | 3 | FA, SP, SU |
| | 105-106 | | Business Communications | | | 3 | FA, SP, SU |
| | 801-197 | *OR | Technical Reporting | Prereq: 801-136 | | | |
| | 804-135 | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 801-198 | | Speech | | 1 | 3 | FA, SP, SU |
| | 801-196 | OR | Oral/Interpersonal Communication | | | | |
| | 104-105 | * | Promotion Principles | | | 3 | FA, SP, SU |
| | 102-121 | 🎓 * | Credit Management | Prereq: 804-135; 801-136 | | 3 | FA, SP, SU |
| | 196-190 | | Leadership Development | | 1,3 | 3 | FA, SP, SU |
| | 809-166 | *OR | Ethics Theory & Applications, Intro | Prereq: 838-105 | | | |
| | 196-191 | * | Supervision | | 3 | 3 | FA, SP, SU |
| | 809-172 | | Diversity Studies, Introduction to | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 102-186 | | Business Management Internship | Prereq: Instructor Consent | | 3 | FA, SP, SU |
| | 102-138 | *OR | BIZ Internship | Prereq: Instructor Consent | | | |
| | 806-112 | | Principles of Sustainability | Prereq: 838-105 | 1 | | |
| | 102-196 | * | Business Decision Management | Prereq: 101-114 OR 101-112; & 103-103; & 104-101 | | 4 | FA, SP, SU |
| | 809-198 | | Psychology, Introduction to | Prereq: 838-105 | 1,2,3 | 3 | FA, SP, SU |
| | 809-195 | | Economics | | 1 | 3 | FA, SP, SU |
| | 809-143 | OR | Microeconomics | Prereq: 838-105 | 3 | | |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | 3 | FA, SP, SU |
| | | | **Minimum Program Total Credits Required** | | | **62** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Business Management (10-102-3)

Business Management is designed to provide a broad background in management theory, human resource management and behavior, accounting, marketing, and business decision making. Students learn how to effectively plan, organize, direct, and evaluate business functions essential to efficient and productive business organizations. Graduates will have the business knowledge and skills to prepare them for a management trainee, assistant, manager, or team leader position in a wide cross-section of business, government, and not-for-profit sectors of our economy.

### Program Learning Outcomes
Graduates will be able to:
1. Plan the operations of a business.
2. Organize resources to achieve the goals of the organization.
3. Direct individuals and/or processes to meet organizational goals.
4. Control business processes.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 62 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
| --- | --- | --- |
| Days & Evenings | Kenosha | FA, SP, SU |
| Days | Elkhorn | FA, SP |
| Days | Racine | FA |
|  | Online | FA |

### Suggested Electives

104-194 International Marketing
196-189 Team Building/Problem Solving
196-193 Human Resource Management
809-143 Microeconomics

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Transfer credits in Social Science may substitute for this course. See an advisor for details.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's Business Management program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

# Business Services Manager (31-102-5)
Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 101-114 | * | Accounting Principles | | | | FA, SP, SU |
| | 101-112 | | **OR** | (Take 101-114 OR 101-112 & 103-103) | 2 | 4 | |
| | 103-103 | ***AND*** | Accounting for Business Excel | | | | |
| | 102-137 | * | Business / Intro to | | 2 | 3 | FA, SP, SU |
| | 102-160 | 🎓 * | Business Law | | 2 | 3 | FA, SP, SU |
| | 103-143 | * | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1,2 | 3 | FA, SP, SU |
| | 801-198 | | Speech | | 1 | 3 | FA, SP, SU |
| | 104-101 | * | Marketing Principles | | 2 | 3 | FA, SP, SU |
| | 104-104 | * | Selling Principles | | | 3 | FA, SP, SU |
| | 104-105 | * | Promotion Principles | | | 3 | FA, SP, SU |
| | 196-191 | * | Supervision | | 2 | 3 | FA, SP, SU |
| | | | ***Minimum Program Total Credits Required*** | | | **28** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-102-3 Business Management program can earn their associate degree by completing an additional 34 credits.
Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books & Supplies | Resident Tuition & Fees | On-time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $1,910 | $4,430 | 100% | First-Line Supervisors of Office and Administrative Support Workers (43-1011) |

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Business Services Manager (31-102-5)

The focus of the *Business Services Manager* diploma is to provide the learner with knowledge in the major functional areas of a business including law, accounting, information technology, and marketing. Students will develop competence in the business functions of planning organizing, directing and controlling. Graduates will be prepared to supervise the work of office administrative, or customer service employees to ensure adherence to quality standards, deadlines, and proper procedures, and will be equipped to implement corporate or departmental policies, procedures, and service standards in conjunction with management.

### Program Learning Outcomes

Graduates will be able to:
1. Plan the operations of a business across functional areas.
2. Organize resources to achieve the goals of the organization.
3. Direct individuals and/or processes to meet organizational goals.
4. Control business processes.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 28 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
| --- | --- | --- |
| Days | Elkhorn | FA, SP |
| Days | Racine | FA |
| Days & Evenings | Kenosha | FA, SP, SU |
|  | Online | FA |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment.  See an advisor for details.
2. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.
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**Business Services Manager**

gtc.edu

**Civil Engineering Technology – Fresh Water Resources** (10-607-9)
Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| 607-141 | | *OR | Construction Basics | | 6 | 2 | FA |
| 607-103 | | | Introduction to Civil Engineering & Architecture | | | | |
| 607-104 | 🎓 | * | Building Material & Construction Method | | | 3 | FA |
| 804-135 | 🎓 | OR | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| 804-115 | | | College Technical Math 1 | Prereq: 834-110 | | 5 | |
| 607-169 | | * | Land Surveying Basics | | 1 | 2 | FA |
| 607-102 | | * | Conflict Resolution in CET | | 6 | 2 | FA |
| 607-136 | 🎓 | * | Construction Project Management | | | 2 | SP |
| 801-136 | 🎓 | | English Composition 1 | Prereq: 831-103 | 1,6 | 3 | FA, SP, SU |
| 607-128 | | | Construction Estimating | Prereq: 804-135<br>Coreq: 801-136 | | 3 | SP |
| 607-170 | | * | AutoCAD for Construction Sciences | | 6 | 2 | SP |
| 806-127 | | | Chemistry 1 | Prereq: 804-197 OR 804-135 | | 4 | FA, SP, SU |
| 607-181 | | * | Hydrology and Conservation | Prereq: 804-135 | | 2 | SU |
| 607-182 | | * | Sampling and Testing | Prereq: 607-104; 801-136 | | 2 | SU |
| 607-187 | | * | 3D CAD: Digital Terrain Modeling | | | 2 | SU |
| 614-150 | | * | 3D CAD: Building Information Modeling | | | 2 | SU |
| 809-195 | | | Economics | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| 607-117 | | * | Geographical Information Systems I | | | 2 | FA |
| 607-186 | | * | Erosion Control | Prereq: 607-104; 804-135 | | 2 | FA |
| 607-183 | | * | Fresh Water Treatment | Prereq: 607-182; 806-127 | | 3 | FA |
| 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,5,6 | 3 | FA, SP, SU |
| 607-154 | | * | Sewer and Water Systems | Prereq: 607-104; 804-135 | | 2 | SP |
| 607-167 | | * | Capstone: CET-Freshwater Resources | Prereq: Instructor Consent<br>Coreq: 607-184; 185 | 1 | | SP |
| 607-184 | | * | Environmental Impact | Prereq: 801-136 | | 2 | SP |
| 607-185 | | * | Waste Water Treatment | Prereq: 607-183 | | 3 | SP |
| 614-102 | | | Construction Project Management 2 | Prereq: 607-136 | | 2 | SP |
| 607-129 | | | Future Trends in Construction Sciences | Prereq: 607-104; 141; 169 | | 2 | SP |
| 607-117 | | | Geographical Information Systems 2 | Prereq: 607-117 | | 2 | SP |
| | | | **Minimum Program Total Credits Required** | | | **64** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Civil Engineering Technology – Fresh Water Resources (10-607-9)

*Civil Engineering Technology - Fresh Water Resources* focuses on a wide variety of aspects within the profession of Civil Engineering – beginning with surveying, transitioning into design, and resulting in construction. The first year classes are mostly the same for programs in the Construction Sciences Group (see Note 6). Basic skills are developed and students are exposed to all areas of the various professions. This allows the student to be able to understand and communicate across the professions, plus it allows the student to discover what area they really enjoy working in. The 2nd year focuses on aspects specific to fresh water, from rainfall to testing to cleaning. The program is designed as a fusion of education and application; hence all the core classes are tied to real world experiences with a significant influx of participation from potential future employers. Some students use this program as a place to prepare themselves to transfer to a 4 year university. Most, however, use this program as a means to develop the skills that allow them to obtain a productive career in various aspects of Fresh Water Resources.

### Program Learning Outcomes

Graduates will be able to:

1. Develop 3D computer models, maps, and drawings based on field measurements.
2. Develop a hydrograph model.
3. Develop a surface/groundwater water storage model. Differentiate between the various areas and functions within the profession.
4. Exhibit proper sampling and testing skills.
5. Design storm systems to meet given design requirements.
6. Develop an Erosion Control Plan.
7. Develop a plan to treat freshwater.
8. Develop a plan to treat wastewater.
9. Develop Environmental Reports exhibiting proper and clear documentation and reporting skills.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 64 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | iMET, Elkhorn | FA |

### Suggested Electives

607-139 Material Testing and Inspections
607-119 Civil Technology/Internship
614-114 Commercial Code
607-129 Future Trends

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. This is a very intense and challenging program. Poor existing skills, especially poor math skills, can always be improved. As long as you have the heart and desire to succeed, the instructors will work with you.
3. Classes offered at Elkhorn Campus via NODAL delivery. See www.gtc.edu for details.
4. The programs in the Construction Science Group include: Civil Engineering Tech: Highway Technology, Architectural-Structural Engineering Technician, and Civil Engineering Technology: Fresh Water Resources.
5. Transfer credits in Social Science may substitute for this course. See an advisor for details.
6. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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**GATEWAY** TECHNICAL COLLEGE

**Civil Engineering Technology-Highway Technology** (10-607-4)
Associate of Applied Science
**Effective 2019/2020**

*Science, Technology, Engineering & Mathematics*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 607-141 | | *OR | Construction Basics | | 6 | 2 | FA |
| | 607-103 | | | Introduction to Civil Engineering & Architecture | | | | |
| | 607-104 | 🎓 | * | Building Material & Construction Method | | | 3 | FA |
| | 804-135 | 🎓 | OR | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 804-115 | | | College Technical Math 1 | Prereq: 834-110 | | 5 | |
| | 607-169 | 🎓 | * | Surveying Basics | | 1 | 2 | FA |
| | 607-102 | | * | Conflict Resolution in CET | | 6 | 2 | FA |
| | 607-136 | 🎓 | * | Construction Project Management | | | 2 | FA |
| | 607-132 | | * | Structural Mechanics | Prereq: 804-135 | | 3 | SP |
| | 607-139 | | * | Material Testing and Inspection | Prereq: 607-104 | | 4 | SP |
| | 801-136 | 🎓 | | English Composition 1 | Prereq: 831-103 | 1,6 | 3 | FA, SP, SU |
| | 607-128 | | * | Construction Estimating | Prereq: 804-135 Coreq: 801-136 | | 3 | SP |
| | 607-170 | | * | AutoCAD for Construction Science | | 6 | 2 | SP |
| | 607-187 | 🎓 | * | 3D CAD: Digital Terrain Modeling | | | 2 | SU |
| | 614-150 | | * | 3D CAD: Building Information Modeling | | | 2 | SU |
| | 809-195 | | | Economics | Prereq: 838-105 | | 3 | FA, SP, SU |
| | 607-117 | | * | Geographical Information Systems I | | | 2 | FA |
| | 607-127 | | * | Civil Engineering Drafting | Prereq: 607-187; 801-136 | | 3 | FA |
| | 607-173 | | * | Surveying Fundamentals | Prereq: 607-169; 187; 804-135 | | 3 | FA |
| | 607-189 | | | Geospatial Data Processing | Prereq: 607-169 | | 2 | FA |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,5,6 | 3 | FA, SP, SU |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 607-150 | | * | Survey Construction/ Route/ Highway | Prereq; 607-173; 801-136 | | 4 | SP |
| | 614-138 | | * | 3D Modeling and Virtualization | Prereq: 614-150; 607-187 | | 1 | SP |
| | 607-154 | | * | Sewer and Water Systems | Prereq: 607-104; 804-135 | | 2 | SP |
| | 607-166 | | * | Capstone: CET-Highway Technology | Prereq: Instructor Consent Coreq: 607-150; 154 | | 1 | SP |
| | 607-129 | | | Future Trends in Construction Science | Prereq: 607-104; 141; 169 | | 2 | SP |
| | 614-102 | | | Construction Project Management 2 | Prereq: 607-136 | | 2 | SP |
| | | | | *Minimum Program Total Credits Required* | | | **64** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Civil Engineering Technology – Highway Technology (10-607-4)

*Civil Engineering Technology – Highway Technology* focuses on a wide variety of aspects within the profession of Civil Engineering – beginning with surveying, transitioning into design, and resulting in construction. The first year classes are mostly the same for programs in the Construction Sciences Group (see Note 6). Basic skills are developed and students are exposed to all areas of the various professions. This allows the student to be able to understand and communicate across the professions, plus it allows the student to discover what area they really enjoy working in. The 2nd year focuses on aspects specific to Highway and Public Works. The program is designed as a fusion of education and application; hence all the core classes are tied to real world experiences with a significant influx of participation from potential future employers. Some students use this program as a place to prepare themselves to transfer to a four year university. Most, however, use this program as a means to develop the skills that allow them to obtain a productive career in various aspects of Highway Technology.

### Program Learning Outcomes
Graduates will be able to:
1. Utilize graphic techniques to produce engineering drawings.
2. Conduct standardized field and laboratory testing on civil engineering materials.
3. Utilize modern surveying methods for land measurements and/or construction layout.
4. Estimate material quantities and costs for civil engineering projects.
5. Utilize geometric elements to develop corridors.
6. Design storm systems to meet given design requirements.
7. Determine forces and stresses in elementary structural systems.
8. Employ productivity software to solve technical problems.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 64 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | iMET, Elkhorn | FA |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. This is a very intense and challenging program. Poor existing skills, especially poor math skills, can always be improved. As long as you have the heart and desire to succeed, the instructors will work with you.
3. Classes offered at Elkhorn Campus via NODAL delivery. See www.gtc.edu for details.
4. The programs in the Construction Science Group include: Civil Engineering Tech: Highway Technology, Architectural-Structural Engineering Technician, and Civil Engineering Technology: Fresh Water Resources.
5. Transfer credits in Social Science may substitute for this course. See an advisor for details.
6. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

# CNC Production Technician (31-444-2)
## Technical Diploma
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 444-331 | 🎓 | * | CNC Machining Technology | Coreq: 444-337 | | 3 | FA, SP, SU |
| | 444-337 | 🎓 | * | Fund. of Blueprint and Shop Safety | | | 3 | FA, SP, SU |
| | 444-338 | 🎓 | * | Fund. of CNC Machine Application | Coreq: 444-337 | | 4 | FA, SP, SU |
| | 444-339 | | * | Gauging and Quality Control | | 4 | 3 | FA, SP, SU |
| | 801-302 | | | Speaking Principles | | | 1 | SP |
| | 804-370 | | | Mathematics I, Applied | Prereq: 854-760 | 1 | 2 | FA, SP |
| | 421-316 | | * | Blueprint Reading, Advanced | Prereq: 444-337 Coreq: 801-301; 804-371 | | 2 | FA, SP |
| | 444-333 | | * | Fund. of CNC Turning Applications | Prereq: 444-331 Coreq: 421-316; 804-371 | | 3 | FA, SP |
| | 444-334 | | * | Fund. Of CNC Milling Applications | | | 3 | FA, SP |
| | 444-335 | | * | CNC Lathe Set-Up | | | 3 | FA, SP |
| | 444-336 | | * | CNC Mill Set-Up | | | 3 | FA, SP |
| | 801-301 | | | Writing Principles | Prereq: 851-756 | 1 | 1 | FA, SP, SU |
| | 804-371 | | | Mathematics II, Applied | Prereq: 804-370 | | 1 | FA, SP |
| | | | | **Minimum Program Total Credits Required** | | | **32** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 31-444-3 CNC Programmer program can earn their technical diploma by completing an additional 12 credits. Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | On-time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $2,183 | $5,750 | 42% | Numerical Tool & Process Control Programmer (51-4012) & CNC Machine Tool Operators (51-4011) |

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## CNC Production Technician (31-444-2)

*CNC Production Technician* is a well-rounded approach to becoming a CNC Technician. We teach the skills necessary for students to become qualified set-up technicians. Students are taught the basics of G-Code programming, proper M-Code usage, and the required steps to efficiently set fixture and tool offsets. Students create their own CNC programs and DNC to the proper machine tool. An excellent overall knowledge of CNC Controls is achieved by working on several different brand name controls. Overall, students will be proficient at programming, set-up, operation, editing, and part inspection.

### Program Learning Outcomes

Graduates will be able to:
1. Apply basic safety practices in the machine shop.
2. Interpret industrial/engineering drawings.
3. Apply precision measuring methods to part inspection.
4. Perform basic machine tool equipment set-up and operation.
5. Perform programming, set-up, and operations of CNC machine tools.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 32 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|          | Location(s) | Starting Term(s) |
|----------|-------------|------------------|
| Days     | Elkhorn     | FA, SP           |
| Evenings | iMET        | FA, SP           |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment.  See an advisor for details.
2. Safety glasses (marked Z-87) are required in labs. If prescription glasses are needed, allow a minimum of 90 days before the program start to obtain prescription and glasses.
3. A hand calculator capable of trigonometric functions is required for 804-370; the cost is approximately $25.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

**CNC Production Technician**

# CNC Programmer (31-444-3)
## Technical Diploma
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 444-331 | 🎓 | * | CNC Machining Technology | Coreq: 444-337 | | 3 | FA, SP, SU |
| | 444-337 | 🎓 | * | Fund. of Blueprint and Shop Safety | | | 3 | FA, SP, SU |
| | 444-338 | 🎓 | * | Fund. of CNC Machine Application | Coreq: 444-337 | | 4 | FA, SP, SU |
| | 444-339 | | * | Gauging and Quality Control | | 4 | 3 | FA, SP, SU |
| | 801-302 | | | Speaking Principles | | | 1 | SP |
| | 804-370 | | | Mathematics I, Applied | Prereq: 854-760 | 1 | 2 | FA, SP |
| | 421-316 | | * | Blueprint Reading, Advanced | Prereq: 444-337; Coreq: 801-301; 804-371 | | 2 | FA, SP |
| | 444-333 | | * | Fund. of CNC Turning Applications | Prereq: 444-331; Coreq: 421-316; 804-371 | | 3 | FA, SP |
| | 444-334 | | * | Fund. of CNC Milling Applications | | | 3 | FA, SP |
| | 444-335 | | * | CNC Lathe Set-Up | | | 3 | FA, SP |
| | 444-336 | | * | CNC Mill Set-Up | | | 3 | FA, SP |
| | 801-301 | | | Writing Principles | Prereq: 851-756 | 1 | 1 | FA, SP, SU |
| | 804-371 | | | Mathematics II, Applied | Prereq: 804-370 | | 1 | FA, SP |
| | 444-307<br>444-308 | *OR | | Fund. of Swiss CNC Turning<br>Fund. of Live Tooling | Prereq: 444-335; 444-336 | | 3 | SP, SU |
| | 444-306<br>444-309 | *OR | | Swiss CNC Setup and Operation<br>Live Tooling Setup and Operation | Prereq: 444-335; 444-336 | | 3 | SP, SU |
| | 444-311 | | * | CNC Lathe Process | Prereq: 444-335; 444-336 | | 3 | SP, SU |
| | 444-314 | | * | CNC Mill Process | Prereq: 444-335; 444-336 | | 3 | SP, SU |
| | | | | | ***Minimum Program Total Credits Required*** | | **44** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | On-Time Graduation Rate[2] | Median Loan Debt[1] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|---|
| $3,002 | $7,975 | 42% | $4,373.50 | Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic (51-4012) |

[1] **Median Loan Debt:** Based on eligibility, students can receive loans to help pay for the total cost of attending college. The cost is comprised of tuition and fees, books and supplies, transportation costs, room and board, and miscellaneous personal expenses. Therefore, medial loan debt may be more than the listed tuition, fees, books, and supplies cost.

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## CNC Programmer (31-444-3)

The *CNC Programmer* technical diploma program gives an overview of essential machine shop practices including machine safety, blueprint reading and part inspection methods. CNC Machine programming, set-up and operation will also be covered in-depth. Graduates of this program will have the skills necessary for entry-level employment in a machine shop setting. Machinists already employed will find the program a great way to improve their skill set. Special emphasis will be placed on learning the skills necessary to transform raw material into a finished part. Students will be able to apply the techniques learned in lectures within a machine shop setting. Overall this program is intended to introduce students to many different aspects within a machine shop setting.

### Program Learning Outcomes

Graduates will be able to:

1. Apply basic safety practices in the machine shop.
2. Interpret industrial/engineering drawings.
3. Apply precision measuring methods to part inspection.
4. Perform basic machine tool equipment set-up and operation.
5. Perform programming, set-up, and operation on CNC milling centers.
6. Perform programming, set-up, and operation on CNC turning centers.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 44 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Elkhorn | FA, SP |
| Evenings | iMET | FA, SP |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Safety glasses (marked Z-87) are required in labs. If prescription glasses are needed, allow a minimum of 90 days before the program start to obtain prescription and glasses.
3. A hand calculator capable of trigonometric functions is required for 804-370; the cost is approximately $25.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult Web Advisor for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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# Cosmetology (31-502-1)
## Technical Diploma
### Effective 2019/2020

*Human Services*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 502-312 | 🎓 | * | Intro to Barber/Cosmetology | Prereq: Instructor Consent | 11 | 1 | FA, SP, SU |
| | 502-301 | | * | Shampoo Treatment | Prereq: Instructor Consent | 11 | 1 | FA, SP, SU |
| | 502-324 | | * | Barber/Cosmetology Industry | Prereq: Instructor Consent | 11 | 2 | FA, SP, SU |
| | 502-366 | 🎓 | * | Women's Haircutting | Prereq: Instructor Consent | | 2 | FA, SP, SU |
| | 502-352 | | * | Men's Haircutting | Prereq: 502-366 | 11 | 2 | FA, SP, SU |
| | 502-353 | | * | Perm Techniques | Prereq: Instructor Consent | 11 | 2 | FA, SP, SU |
| | 502-345 | | * | Basic Hair Color | Prereq: Instructor Consent | 11 | 2 | FA, SP, SU |
| | 502-349 | | * | Facials | Prereq: Instructor Consent | 11 | 2 | FA, SP, SU |
| | 502-350 | | * | Hair Design 1 | Prereq: Instructor Consent | 11 | 2 | FA, SP, SU |
| | 502-320 | | * | Basic Manicuring | Prereq: Instructor Consent | 11 | 1 | FA, SP, SU |
| | 502-348 | | * | Chemical Straightening | Prereq: 502-353 | 11 | 2 | FA, SP, SU |
| | 502-347 | | * | Bleaching | Prereq: 502-345 | 11 | 2 | FA, SP, SU |
| | 502-351 | | * | Hair Design 2 | Prereq: Instructor Consent | 11 | 2 | FA, SP, SU |
| | 502-354 | | * | Salon Service 1 | Prereq: Instructor Consent | 10,11 | 1 | FA, SP, SU |
| | 502-355 | | * | Salon Service 2 | Prereq: Instructor Consent | 10,11 | 1 | FA, SP, SU |
| | 502-356 | | * | Salon Service 3 | Prereq: Instructor Consent | 10 | 1 | FA, SP, SU |
| | 502-367 | | * | Salon Service 4 | Prereq: Instructor Consent | 10 | 1 | FA, SP, SU |
| | 502-308 | | * | Salon Service 5 | Prereq: Instructor Consent | 10 | 1 | FA, SP, SU |
| | 502-309 | | * | Salon Service 6 | Prereq: Instructor Consent | 10 | 1 | FA, SP, SU |
| | 502-310 | | * | Salon Service 7 | Prereq: Instructor Consent | 10 | 1 | FA, SP, SU |
| | 502-361 | | * | Salon Service 8 | Prereq: Instructor Consent | 10 | 1 | FA, SP, SU |
| | 502-362 | | * | Salon Service 9 | Prereq: Instructor Consent | 10 | 1 | FA, SP, SU |
| | 502-311 | | * | Salon Service 10 | Prereq: Instructor Consent | 10 | 1 | FA, SP, SU |
| | 502-364 | | * | Salon Service 11 | Prereq: Instructor Consent | 10 | 1 | FA, SP, SU |
| | 502-365 | | * | Salon Service 12 | Prereq: Instructor Consent | 10 | 1 | FA, SP, SU |
| | 502-371 | | * | Mock Board Theory | Prereq: Instructor Consent | | 1 | FA, SP, SU |
| | 502-370 | | * | Mock Board Skills | Prereq: Instructor Consent | | 2 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **38** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $6,613 | $6,322 | Hairdresser, Hairstylists, & Cosmetologists (39-5012) |

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Cosmetology (31-502-1)

Exciting careers are open to the licensed, experienced Cosmetologists. In addition to salon ownership, salon management, and specialization of a service, one can choose from positions in sales, advertising, research, education, and makeup artistry. The possibilities are unlimited and so is the income potential. The Cosmetology program is a three-semester Diploma program consisting of 1,550 hours of instruction. Students attend classes Monday through Friday as scheduled, and may attend full or part-time. Students receive instruction in Cosmetology skills such as hair designing, haircutting, hair coloring, permanent waving, and manicuring. Classes in makeup artistry, sculptured nails, color analysis, and salon management are also included.

### Program Learning Outcomes

Graduates will be able to:
1. Perform hair coloring services.
2. Perform chemical relaxing services.
3. Perform hair sculpting services.
4. Perform permanent wave services.
5. Demonstrate styling services.
6. Demonstrate nail services.
7. Demonstrate facial services.
8. Demonstrate sales techniques.
9. Demonstrate basic theory knowledge required in the field.
10. Demonstrate interpersonal skills for success.
11. Develop strategies to market products and services.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading (min. score 237), writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.
4. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements

1. Minimum 38 credits with an average of 2.0 or above.
2. *A minimum of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

*Enrollment begins in fall and spring ONLY, beginning with the Semester 1 Sequence.*

|       | Location(s) | Starting Term(s) |
|-------|-------------|------------------|
| Days  | Racine      | FA, SP           |
| Days  | Burlington  | SP, SU           |

### Notes

1. This is a high demand program with limited openings.
2. Program requires three semesters to complete 1,550 hours on a full-time basis. Part-time attendance will extend student's training time to a minimum 6 semesters. Please contact an advisor for details.
3. Students are required to purchase regulation uniforms.
4. Supplies and materials are required for this program. All must be purchased prior to beginning the first day of the program.
5. Students must be 18 years of age or a high school graduate to take the state licensure exam.
6. Students must complete both 502-337 Manicure/Nail Technician I and 502-338 Manicure/Nail Technician II to be eligible to take the Wisconsin Manicurist/Nail Technician license exam.
7. Students must complete all classroom portions of a course before beginning any of the Salon Services or Mock Board courses.
8. All new students must attend a mandatory orientation prior to registering for courses.
9. A satisfactory placement test score (or successful remediation) is required prior o enrollment. See an advisor for details.
10. These courses require the following prerequisites: 502-301; 502-345; 502-320; 502-347; 502-348; 502-349; 502-350; 502-351; 502-352; 502-353; and 502-366.
11. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

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**GATEWAY** TECHNICAL COLLEGE

**Criminal Justice – Law Enforcement 720 Academy** (30-504-2)
Technical Diploma
**Effective 2019/2020**

Law, Public Safety, Corrections & Security

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|
| | 504-306 | Overview of Criminal Justice | | | 1 | FA, SP |
| | 504-307 | Overview of Investigation | | | 2 | FA, SP |
| | 504-308 | Overview of Patrol Response | | | 2 | FA, SP |
| | 504-309 | Overview of Tactics | | | 1 | FA, SP |
| | 504-310 | Principles of Emergency Vehicle Response | | | 2 | FA, SP |
| | 504-318 | Principles of Tactics | | | 5 | FA, SP |
| | 504-319 | Principles of Investigations | | | 1 | FA, SP |
| | 504-320 | Application of Investigations | | | 1 | FA, SP |
| | 504-321 | Application of Traffic Response | | | 3 | FA, SP |
| | 504-322 | Sensitive Crimes | | | 2 | FA, SP |
| | 504-323 | Physical Fitness | | | 1 | FA, SP |
| | 504-317 | Law Enforcement Academy Scenario Week | | | 1 | FA, SP |
| | | ***Minimum Program Total Credits Required*** | | | **22** | |

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $2,410 | $4,380 | Police Patrol Officers (33-3051) |

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## Criminal Justice – Law Enforcement 720 Academy (30-504-2)

The *720 Hour Law Enforcement Academy* is designed to prepare the candidate to perform the essential functions of a law enforcement officer in the State of Wisconsin. The competency-based instruction meets the criteria set forth by the Wisconsin Department of Justice, Training and Standards Bureau. Training is delivered in three phases through a combination of lecture, labs, interactive group discussion, hands-on instruction, and integration exercises. The Academy meets daily Monday through Friday for 18 weeks.

### Program Learning Outcomes

Graduates will be able to:
1. Think critically.
2. Manage emergencies.
3. Communicate effectively.
4. Demonstrate professionalism.
5. Conduct investigations.
6. Interact with others.
7. Demonstrate tactical skills.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

**Step 1:**
1. Students must submit an application and $30 fee.
2. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
3. Students must submit an official college transcript verifying an associate degree or higher in Criminal Justice or at least 60 postsecondary credits earned. Students earning credits at Gateway Technical College do not need a Gateway transcript but should note the completion of credits on their application.
4. Students must request and pay for a background check. Applicants of this program are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue this career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.

5. Students must complete a functional ability form verifying that they have read and understand the functional abilities for the program.
6. Students must complete DJLE-327 Application for Enrollment form.
7. Students must submit a copy of a valid driver's license.
8. Students must submit Annotation of Birth Facts form.
9. Students must submit an abstract copy of their driving record from their state's Department of Motor Vehicles.

**Step 2:**
1. Students must pass the Physical Readiness Test to be considered for an interview.
2. Students will participate in an interview. Selected candidates will need to submit a DJLE-332 Medical Assessment form.

### Graduation Requirements

1. Minimum grade of 2.0 ("C") or above in all courses.
2. Satisfactorily demonstrate proficiency in all hands-on unified tactical areas of training (DAAT, EVOC, Firearms, Vehicle Contacts).
3. Pass the scenario-based final assessment exercise.

For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|      | Location(s) | Starting Term(s) |
|------|-------------|------------------|
| Days | Kenosha     | FA, SP           |

### Notes

1. For detailed information about this program please visit the Law Enforcement website: www.gtc.edu/LEAcademy
2. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
3. Background checks for the Law Enforcement Academy program are valid for 6 months. Students must request a current background check every 6 months they are enrolled or re-apply.
4. In order to be admitted to the academy candidates must pass a Physical Readiness Test administered by academy staff. This test must be completed before an interview can be scheduled.

## Criminal Justice Studies (10-504-5)
### Associate of Applied Science
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 504-900 | 🎓 | * | Intro to Criminal Justice | | 4 | 3 | FA, SP, SU |
| | 504-902 | 🎓 | * | Criminal Law | | | 3 | FA, SP |
| | 504-174 | | * | Intro to Security | | | 3 | FA, SP |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,4 | 3 | FA, SP, SU |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 103-143 | | | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1,4 | 3 | FA, SP, SU |
| | 504-903 | 🎓 | * | Professional Communications | | | 3 | FA, SP |
| | 504-905 | | * | Report Writing | | | 3 | FA, SP, SU |
| | 504-141 | | * | Interview, Interrogations, Confessions | | 4 | 3 | FA, SP |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | 504-117 | | * | Police Administration | | | 3 | FA, SP |
| | 504-148 | | * | Rules of Evidence | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 504-907 | | * | Community Policing Strategies | | | 3 | FA, SP, SU |
| | 504-908 | | * | Traffic Theory | Prereq: 804-135 | | 3 | FA, SP |
| | 809-159 | | | Psychology, Abnormal | Prereq: 809-198 | | 3 | FA, SP, SU |
| | 504-901 | | * | Constitutional Law | Prereq: 504-902; Coreq: 504-148 | | 3 | FA, SP, SU |
| | 504-904 | | * | Juvenile Law | | | 3 | FA, SP |
| | 504-906 | | * | Criminal Investigation Theory | Prereq: 504-908; Coreq: 504-148 | | 3 | FA, SP, SU |
| | 801-196 | | | Oral/Interpersonal Communications | | 1 | 3 | FA, SP, SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | |
| | | | | **Minimum Program Total Credits Required** | | | **63** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Criminal Justice Studies

## Criminal Justice Studies (10-504-5)

*Criminal Justice Studies* is a two-year associate degree program that prepares students for positions in a variety of law enforcement careers at the state, local, and federal levels, as well as in the field of private security. Students study the law enforcement field plus physical and behavioral sciences to meet the demands of the police profession, including criminal investigation, traffic law, patrol procedures, and scientific crime laboratory.

### Program Learning Outcomes
Graduates will be able to:
1. Examine the components of and interrelationships in the criminal justice system.
2. Manage emergency situations.
3. Establish situational safety.
4. Apply appropriate communication skills to public safety incidents.
5. Conduct investigations.
6. Adhere to professional code of ethics for a criminal justice practitioner.
7. Maintain a healthy lifestyle.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.

### Graduation Requirements
1. Minimum 63 credits with an average of 2.0 or above.
2. *A minimum grade of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | Kenosha, Racine, Elkhorn | FA, SP |

### Suggested Electives

| | |
|---|---|
| 504-167 Phys Fitness for Law Enforcement | 504-173 Cyber Crime |
| 504-124 Forensic Science | 802-125 Spanish II |
| 504-175 Terrorism/Homeland Security | 802-119 Spanish III |
| 504-152 Police Internship | 504-176 Spanish for Law Enforcement |
| 802-124 Spanish I | |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Students wishing to demonstrate proficiency in Spanish are encouraged to enroll in 90-801-3 Spanish Proficiency for Law Enforcement (internal certificate). See an advisor for details.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

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**GATEWAY** TECHNICAL COLLEGE

**Culinary Arts** (10-316-1)
Associate of Applied Science
**Effective 2019/2020**

*Hospitality & Tourism*

**Culinary Arts**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 316-109 | | * | Short Order Deli | Coreq: 316-170; 316-131 | | 3 | FA, SP |
| | 316-131 | | * | Culinary Skills I | Coreq: 316-170; 804-135 | 4 | 4 | FA, SP |
| | 316-140 | | * | Basic Baking Techniques | | | 3 | FA, SP |
| | 316-170 | 🎓 | * | Sanitation and Hygiene | | 4 | 1 | FA, SP |
| | 316-190 | | * | Food Service Supervision | | | 3 | FA |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 103-143 | | | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1,4 | 3 | FA, SP, SU |
| | 316-132 | | * | Culinary Skills II | Prereq: 316-131; Coreq 801-136 | | 4 | SP |
| | 316-133 | | * | Menu Planning, Purchasing, Cost Control | | | 3 | SP |
| | 316-134 | | * | Garde Manger | | | 1 | SP |
| | 316-130 | 🎓 | * | Nutrition | | 4 | 2 | SP |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,4 | 3 | FA, SP, SU |
| | 316-105 | | * | International Buffets | Prereq: 316-132 | | 4 | FA |
| | 316-135 | | * | Catering/Banquets | Prereq: 316-132 | | 2 | FA, SP |
| | 801-196 | | | Oral/Interpersonal Communications | | 1 | 3 | FA, SP, SU |
| | 809-166 | | | Ethics: Theory & Applications, Intro to | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 101-112 | | | Accounting for Business | | | 3 | FA, SP, SU |
| | 196-123 | | | Problem Solving/Decision Making | | | 2 | SP |
| | 316-125 | | * | Fine Dining | Prereq: 316-105; 131; 132; 135; 170; 804-135; 801-136; OR 316-131 & 109-122 | | 4 | SP |
| | 809-195 | | | Economics | Prereq: 838-105 | 1,4 | 3 | FA, SP, SU |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | | | | | **Minimum Program Total Credits Required** | | **63** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Culinary Arts (10-316-1)

*Culinary Arts* places emphasis on food purchasing, specialty food preparation, dining room operation, and quantity food preparation sanitation. In addition to the business aspects of restaurant operations, this program includes extensive hands-on preparation of different foods. Students completing the program are certified in sanitation and qualified for employment as cafeteria managers, restaurant cooks, concession managers, and specialty cooks.

### Program Learning Outcomes

Graduates of the Culinary Arts Associate Degree Program should be able to:
1. Apply principles of safety and sanitation in food service operations.
2. Apply principles of nutrition.
3. Demonstrate culinary skills.
4. Manage food service operations.
5. Plan menus.
6. Analyze food service financial information.
7. Relate food service operations to sustainability.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.
4. Students must submit official high school, GED, or HSED transcripts.

### Graduation Requirements

1. Minimum 63 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Racine, Elkhorn | FA |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A uniform is required for this program.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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**Culinary Arts**

# Culinary Assistant (31-316-1)
Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 316-109 | | * | Short Order Deli | Coreq: 316-170; 131 | | 3 | FA, SP |
| | 316-130 | 🎓 | * | Nutrition | | 3 | 2 | SP |
| | 316-131 | | * | Culinary Skills I | Coreq: 316-170; 804-135 | 3 | 4 | FA, SP |
| | 316-140 | | * | Basic Baking Techniques | | | 3 | FA, SP |
| | 316-170 | 🎓 | * | Sanitation and Hygiene | | 3 | 1 | FA, SP |
| | 316-190 | | * | Food Service Supervision | | | 3 | FA |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 101-112 | | * | Accounting for Business | | | 3 | FA, SP, SU |
| | 103-143 | | | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1 | 3 | FA, SP, SU |
| | 316-133 | | * | Menu Planning, Purchasing, Cost Control | | | 3 | FA, SP |
| | 316-134 | | * | Garde Manger | | | 1 | FA, SP |
| | | | | ***Minimum Program Total Credits Required*** | | | **29** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-316-1 Culinary Arts program can earn their associate degree by completing an additional 34 credits. Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books & Supplies | Resident Tuition & Fees | On-Time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $1,979 | $5,241 | 100% | Food Preparation Workers (35-2021) |

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Culinary Assistant (31-316-1)

The *Culinary Assistant* diploma prepares individuals to serve under the supervision of chefs and other food service professionals as kitchen support staff and commercial food preparation workers. Coursework includes instruction in kitchen organization and operations, sanitation and quality control, basic food preparation and cooking skills, kitchen and kitchen equipment maintenance, and quantity food measurement and monitoring.

### Program Learning Outcomes
Graduates will be able to:
1. Demonstrate principles of safety and sanitation in food service operations.
2. Practice principles of nutrition.
3. Practice culinary skills.
4. Plan food service operations.
5. Create menus.
6. Relate the use of financial resources to food service operation.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, math, and computer placement assessments.
3. Students must submit official high school, GED, or HSED transcript.
4. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements
1. Minimum 29 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Racine, Elkhorn | FA, SP |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A uniform is required for this program.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Culinary Assistant

gtc.edu

# Dental Assistant (31-508-1)
## Technical Diploma
### Effective 2019/2020

*Health Science*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 508-101 | | * | Dental Health Safety | Prereq: Advisor Consent | 4,6,10 | 1 | SU |
| | 508-103 | | * | Dental Radiography | Prereq: Advisor Consent | 4,10 | 2 | FA |
| | 508-113 | | * | Dental Materials | Prereq: Advisor Consent | 4 | 2 | FA |
| | 508-302 | 🎓 | * | Dental Chairside | Prereq: Advisor Consent Coreq: 508-101; 113; 304 | 4,10 | 5 | FA |
| | 508-304 | 🎓 | * | Dental and General Anatomy | Prereq: Advisor Consent | 4,10 | 2 | FA |
| | 508-306 | 🎓 | * | Dental Assistant Clinicals | Prereq: Advisor Consent | 4,6 | 3 | FA |
| | 508-307 | | * | Dental Assistant Professionalism | Prereq: Advisor Consent | 1,4,10 | 1 | FA |
| | 508-120 | | * | Dental Office Management | Prereq: 508-307 | 1 | 2 | SP |
| | 508-308 | | * | Dental Chairside – Advanced | Prereq: 508-302 | | 5 | SP |
| | 508-309 | | * | Dental Laboratory Procedure | Prereq: 508-113 | | 4 | SP |
| | 508-310 | | * | Dental Radiography – Advanced | Prereq: 508-103 | | 1 | SP |
| | 508-311 | | * | Dental Assistant Clinical - Advanced | Prereq: 508-306 | 6,8 | 2 | SP |
| | 801-301 | | | Writing Principles | Prereq: 851-756 | 2,7 | 1 | FA, SP, SU |
| | 801-302 | | | Speaking Principles | | 2,7 | 1 | SP |
| | | | | ***Minimum Program Total Credits Required*** | | | **32** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | On-Time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $2,183 | $5,902 | 14% | Dental Assistants (31-9091) |

[2] On-time Graduation Rate: Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Dental Assistant (31-508-1)

*Dental Assistant* program prepares graduates to work with dentists as they examine and treat patients. Dental Assistants with documented skills also may carry out a variety of laboratory, clinical and office duties. Some dental assistants manage the office and are responsible for patient scheduling and bookkeeping functions. Graduates receive a technical diploma and are eligible to write the certification examination of the Dental Assisting National Board. Most dental assistants work in general or specialized dental offices, either for individual dentists or for groups of dentists. Some dental assistants may choose to work for insurance companies, dental laboratories, or dental supply companies. The dental assistant also may find employment with federal agencies such as the Veterans' Administration, United States Public Health Services, the Armed Forces, or a state, county or city health facility.

### Program Learning Outcomes

Graduates will be able to:
1. Perform a variety of advanced supportive dental procedures.
2. Manage infection and hazard control.
3. Produce diagnostic intraoral and extraoral radiographs on a variety of patients.
4. Perform advanced dental laboratory procedures.
5. Demonstrate professional behaviors, ethics, and appearance.
6. Perform dental office business procedures.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.
5. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements

1. Minimum 32 credits with an average of 2.0 or above.
2. *Minimum Grade of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

| | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha | SU |

### Notes

1. This course will be taught online. Basic computer literacy and Blackboard knowledge are highly recommended.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
3. Any non-508 course may be taken prior to entry in the program, assuming requisites have been satisfied (or waived with departmental approval).
4. Students are selected based on completion of academic eligibility requirements and district residency. Students will be selected for their initial core 508 courses using a petition process. Students must meet petition requirements prior to enrolling in 508 courses. See https://www.gtc.edu/student-services/admissions/what-petitioning for additional information.
5. The Dental Assistant Program is only offered on a full-time basis, Monday through Friday. Travel is required to clinical sites. Students must provide their own transportation.
6. Students must provide CPR for the Healthcare Provider certification prior to enrollment.
7. Students may take 801-196 Oral/Interpersonal Communication in place of 801-301 & 801-302.
8. Course 508-311 Dental Assistant Clinical - Advanced has changed to a Pass/Fail grading system.
9. Please note that your program may require one or all of the following additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
10. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

**Diesel Equipment Mechanic** (31-142-1)
Technical Diploma
**Effective 2019/2020**

*Transportation, Distribution & Logistics*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 412-111 | 🎓 | * | Diesel Maintenance Fundamentals | Coreq: 804-135 | | 2 | FA, SP |
| | 412-107 | 🎓 | * | Diesel Electricity 1 | Prereq: 412-111 | 6 | 4 | FA, SP |
| | 412-114 | | * | Diesel Heating, Cooling & Air Cond. | Prereq: 412-111; 107 | 6 | 3 | FA, SP |
| | 412-117 | | * | Diesel Suspension & Steering Systems | Prereq: 412-111 | 6 | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 412-106 | | * | Diesel Brake Systems | Prereq: 412-111; 117 OR 125 | 6 | 4 | SP, SU |
| | 412-112 | | * | Diesel Drive Trains | Prereq: 412-111; 106 Coreq: 801-136 | 6 | 4 | SP, SU |
| | 412-116 | | * | Diesel Preventative Maintenance | Prereq: 412-111; 106; 112 OR 126 | 6 | 3 | SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,6 | 3 | FA, SP, SU |
| | 801-196 | | | Oral/Interpersonal Communication | | | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **32** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-412-1 Diesel Equipment Technology program can earn their associate degree by completing an additional 32 credits.
Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | On-time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $1,979 | $5,546 | 38% | Mobile Heavy Equipment Mechanics (49-3042) |

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Diesel Equipment Mechanic (31-412-1)

*Diesel Equipment Mechanic* is a one-year repair and maintenance program designed to prepare an entry level diesel technician. This program is the first year of the associate degree Diesel Equipment Technology program. Program instruction will include over the road, off road and stationary applications. Emphasis will be placed on the fundamentals and repair of diesel engines, and basic diesel vehicle systems including brakes, heating, cooling, and electrical/electronic.

### Program Learning Outcomes

Graduates will be able to:
1. Diagnose major systems in diesel and heavy equipment industry.
2. Repair major systems in diesel and heavy equipment industry.
3. Service major systems in diesel and heavy equipment industry.
4. Practice personal and professional work habits.
5. Document complaint, cause, and correction.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 32 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Horizon Center | SP |
| Evenings | Horizon Center | FA |

### Notes

1. A satisfactory placement rest score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Tablet computer required for this program. See an advisor for a fact sheet describing minimum requirement.
3. Work uniform is required. See an advisor for details.
4. Safety glasses are required in labs. If prescription safety glasses are required, allow a minimum of 90 days before the program start to obtain prescription and glasses.
5. A state issued Commercial Driver License (CDL) is not required for the program but highly recommended. Gateway Technical College will offer CDL training starting May 2019.
6. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Diesel Equipment Mechanic

gtc.edu

## Diesel Equipment Technology (10-412-1)
### Associate of Applied Science
**Effective 2019/2020**

The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 412-111 | 🎓 | * | Diesel Maintenance Fundamentals | Coreq: 804-135 | | 2 | FA, SP |
| | 412-107 | 🎓 | * | Diesel Electricity 1 | Prereq: 412-111 | 7 | 4 | FA, SP |
| | 412-114 | | * | Diesel Heating, Cooling & Air Cond. | Prereq: 412-111; 107 | 7 | 3 | FA, SP |
| | 412-117 | | * | Diesel Suspension & Steering Systems | Prereq: 412-111 | 1,7 | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 412-106 | | * | Diesel Brake Systems | Prereq: 412-111; 117 OR 125 | 7 | 4 | SP, SU |
| | 412-112 | | * | Diesel Drive Trains | Prereq: 412-111; 106 Coreq: 801-136 | 7 | 4 | SP, SU |
| | 412-116 | | * | Diesel Preventative Maintenance | Prereq: 412-111; 106; 112 OR 126 | 7 | 3 | SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 7 | 3 | FA, SP, SU |
| | 801-196 | | * | Oral/Interpersonal Communication | | 1 | 3 | FA, SP, SU |
| | 412-110 | | * | Diesel Fuel Systems | Prereq: 412-111; 801-136; 804-135 | | 3 | FA |
| | 412-109 | | * | Diesel Engine Service | Prereq: 412-111; 110 | 7 | 5 | FA |
| | 412-108 | | * | Diesel Electricity 2 | Prereq: 412-111; 107 | | 3 | FA |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,7 | 3 | FA, SP, SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | 412-115 | | * | Diesel Hydraulic Systems | Prereq: 412-111 | | 2 | SP |
| | 412-113 | | * | Diesel Fuel Systems - Advanced | Prereq: 412-111; 107; 110; 108 | | 3 | SP |
| | 412-105 | | * | Diesel Control Systems - Advanced | Prereq: 412-111 & 108 & 109 & 112 OR 412-126 & 113 & 114 | | 4 | SP |
| | 809-198 | | | Psychology, Intro to | Prereq: 838-105 | 1,6,7 | 3 | FA, SP, SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **64** | |

### AVAILABLE CONCENTRATION: CONSTRUCTION EQUIPMENT REPAIR

| Instead of these courses | Take these alternates | | | |
|---|---|---|---|---|
| 412-117 Diesel Susp. & Steering Sys. | *412-125 Const. Equip. Drive/Steer. Sys. | Prereq: 412-111 | 3 | FA, SP, SU |
| 412-112 Diesel Drive Trains | *412-126 Const. Equip. Drive Train | Prereq: 412-111; 106; 125 | 4 | FA, SP, SU |
| 412-105 Diesel Control Sys. Adv. | *412-127 Construction Hydraulic Sys. | Prereq: 412-111; 108; 109; 115; 126 | 4 | SP |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Diesel Equipment Technology (10-412-1)

*Diesel Equipment Technology* is a two-year repair and maintenance program designed to prepare an entry level diesel technician. Program instruction will include over the road, off road and stationary applications. Emphasis will be placed on operational fundamentals and repair of diesel engines, and diesel vehicle systems including brakes, heating, and cooling systems. Technical skills will be developed in diagnosing and repair of advanced engine and system controls.

### Program Learning Outcomes

Graduates will be able to:
1. Diagnose major systems in diesel and heavy equipment industry.
2. Repair major systems in diesel and heavy equipment industry.
3. Service major systems in diesel and heavy equipment industry.
4. Practice personal and professional work habits.
5. Document complaint, cause, and correction.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 64 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Horizon Center | SP |
| Evenings | Horizon Center | FA |

### Suggested Electives

412-122 Professional Practices
412-123 Diesel Equipment Tech. Internship
442-101 Welding Basics
442-102 Introduction to Welding
461-120 Small Power Equipment
801-197 Technical Reporting
809-195 Economics
443-101 Forklift Operation & Maintenance

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Tablet computer required for this program. See an advisor for a fact sheet describing minimum requirements.
3. Work uniforms are required. See an advisor for details.
4. Safety glasses are required in labs. If prescription safety glasses are required, allow a minimum of 90 days before the program start to obtain prescription and glasses.
5. A state issued Commercial Driver License (CDL) is not required for the program but highly recommended. Gateway Technical College will offer CDL training starting May 2019.
6. Transfer credits in Social Science may substitute for this course. See an advisor for details.
7. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Diesel Equipment Technology

gtc.edu

## Early Childhood Education (10-307-1)
### Associate of Applied Science
**Effective 2019/2020**

*Human Services*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 307-148 | | * | ECE: Foundations of Early Childhood Education | | 3,7 | 3 | FA, SP, SU |
| | 307-167 | | * | ECE: Health, Safety & Nutrition | | 3,7 | 3 | FA, SP, SU |
| | 307-179 | | * | ECE: Child Development | | 3 | 3 | FA, SP, SU |
| | 307-174 | 🎓 | * | ECE: Introductory Practicum | Coreq: 307-148; 307-167; 801-136 | 3 | 3 | FA, SP |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,7 | 3 | FA, SP, SU |
| | 307-110 | | * | ECE: Soc S, Art and Music | Coreq: 307-148 | | 3 | SP |
| | 307-188 | | * | ECE: Guiding Children's Behavior | | | 3 | SP |
| | 307-108 | | * | ECE: Early Language & Literacy | Coreq: 307-148 | | 3 | SP |
| | 307-175 | 🎓 | * | ECE: Preschool Practicum | Prereq: 307-174 | | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 307-151 | | * | ECE: Infant & Toddler Development | | | 3 | FA |
| | 307-195 | | * | ECE: Family and Community Relationships | | | 3 | FA |
| | 307-112 | | * | ECE: STEM | Coreq: 307-148 | | 3 | FA |
| | 307-177 | 🎓 | * | ECE: Intermediate Practicum | Prereq: 307-175; 801-136; 804-135; Coreq: 307-151 | | 3 | FA, SP |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,5,7 | 3 | FA, SP, SU |
| | 307-187 | | * | ECE: Children with Differing Abilities | | | 3 | SP |
| | 307-199 | | * | ECE: Advanced Practicum | Prereq: 307-177 | | 3 | FA, SP |
| | 801-196 | | | Oral/Interpersonal Communication | | 1 | 3 | FA, SP, SU |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,5,7 | 3 | FA, SP, SU |
| | ***Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.*** | | | | | | 3 | FA, SP, SU |
| | | | | ***Minimum Program Total Credits Required*** | | | ***60*** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Early Childhood Education (10-307-1)

*Early Childhood Education* prepares students to work as teacher-caregivers in early childhood settings. It combines hands-on fieldwork in area centers with related academic work at the college. Graduates become responsible for the care and education of children in the birth-to-eight-years age range. They create and maintain safe and healthy play environments, guide behavior, plan and implement learning activities, and work cooperatively with staff and parents.

### Program Learning Outcomes
Graduates will be able to:
1. Apply child development theory to practice.
2. Cultivate relationships with children, family, and the community.
3. Assess child growth and development.
4. Use best practices in teaching and learning.
5. Demonstrate professionalism.
6. Integrate health, safety, and nutrition practices.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants of this program are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue this career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.
5. Students must complete a functional ability form verifying that they have read and understand the functional abilities for the program.

### Graduation Requirements
1. Minimum 60 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | Racine | FA |

### Suggested Electives

| | |
|---|---|
| 307-141 ECE Special Healthcare Needs | 307-149 ECE Operations Management |
| 307-189 ECE Group Care for Infant and Toddlers | |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Background checks for the ECE program are valid for one year. Students must request a current background check for each year they are enrolled.
3. Students must submit all health and immunization forms prior to the first day of attending all first-semester courses.
4. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
5. Transfer credits in Social Science may substitute for this course. See an advisor for details.
6. Gateway has many articulation agreements with four-year colleges and universities. If you are planning on transferring to a four-year institution please review this information online at gtc.edu/transfer. If an institution is not listed please contact them directly to see which courses transfer. You may also contact your advisor for more information.
7. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

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**EQUAL OPPORTUNITY EMPLOYER AND EDUCATOR/EMPLEADOR Y EDUCADOR QUE OFRECE IGUALDAD DE OPORTUNIDADES**

Early Childhood Education

gtc.edu

**Electrical Engineering Technology** (10-662-1)
Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 605-113 | 🎓 | * | DC/AC I | | 4 | 3 | FA, SP |
| | 605-130 | | * | Digital Electronics | | 4 | 4 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,4 | 3 | FA, SP, SU |
| | 804-115 | | | College Technical Math 1 | Prereq: 834-110 | 1,4 | 5 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | 605-114 | | * | DC/AC II | Prereq: 605-113 Coreq 804-115 | 4 | 3 | FA, SP, SU |
| | 605-120 | | * | Electronic Devices I | Prereq: 605-113 | 4 | 4 | FA, SP, SU |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 804-197 | | | College Algebra & Trig w Apps | Prereq: 804-115 OR 804-114 | 4 | 5 | FA, SP, SU |
| | 809-195 | | * | Economics | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 605-121 | | * | Electronic Devices II | Prereq: 605-120 | | 4 | FA, SP, SU |
| | 605-190 | | * | Microprocessors | Coreq: 605-114; 121; 801-197 | 4 | 4 | FA |
| | 662-112 | | * | DC/AC III | Prereq: 605-114 | | 3 | FA |
| | 804-198 | | * | Calculus 1 | Prereq: 804-197 | 4 | 4 | FA, SP, SU |
| | 806-143 | | * | College Physics 1 | Prereq: 804-113 OR 804-115 | | 3 | FA, SP, SU |
| | 662-124 | | * | Electronic Circuit Analysis | Prereq: 605-120 | | 3 | SP |
| | 804-181 | | * | Calculus 2 | Prereq: 804-198 | | 4 | SP, SU |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | *Take 6 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 6 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **70** | |

| *AVAILABLE CONCENTRATION: BIOMEDICAL ENGINEERING TECHNOLOGY* | | | |
|---|---|---|---|
| Instead of these courses | Take these alternates | | |
| 809-195 Economics | *662-102 Medical Devices Func. & Use I | 3 | SP |
| 804-181 Calculus 2 | *662-103 Medical Devices Func. & Use II | 3 | SU |
| | *662-101 Safety In Healthcare | 1 | SP |

| *AVAILABLE CONCENTRATION: SUSTAINABLE ENERGY SYSTEMS* | | | |
|---|---|---|---|
| Instead of these courses | Take these alternates | | |
| 809-195 Economics | *482-110 Sustainable Energy, Intro to | 2 | SU |
| 804-181 Calculus 2 | *482-111 Sust. Energy: Gen. of Elec. | Prereq: 482-110 | 2 | SU |
| | *482-112 Capstone Design Project | Prereq: 482-110 | 3 | SU |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Electrical Engineering Technology (10-662-1)

*Electrical Engineering Technology* focuses on the installation, maintenance, modification, diagnosis, and troubleshooting of a wide variety of electronic equipment. In addition to comprehensive training in electronic theory, lab experience is an integral part of the program. The study areas include AC/DC principles, transistor operation, digital circuits, microprocessors, optoelectronics, communications, and industrial electronics.

### Program Learning Outcomes
Graduates will be able to:
1. Apply electronic theory to practice.
2. Operate test equipment.
3. Build electronic circuits and systems.
4. Evaluate the operation of electronic circuits or systems.
5. Communicate technical information.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 70 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | iMET | FA, SP |

### Suggested Electives

605-150 Industrial Electronics    605-133 Industrial Data Communications

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment.  See an advisor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days before the program start to obtain prescription and glasses.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

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**EQUAL OPPORTUNITY EMPLOYER AND EDUCATOR/EMPLEADOR Y EDUCADOR QUE OFRECE IGUALDAD DE OPORTUNIDADES**

# Electromechanical Maintenance Technician (31-620-3)
## Technical Diploma
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 620-302 | 🎓 | * | Electrical Principles and Ind Controls | | | 3 | FA |
| | 612-102 | | * | Pneumatic/Hydraulics, Intro | | | 3 | FA |
| | 628-109 | | * | Mechanical Skills for Technicians | | | 3 | FA |
| | 628-300 | | * | Machining for Maintenance | | | 2 | FA |
| | 444-339 | | * | Gauging and Quality Control | | 4 | 3 | FA |
| | 804-370 | | | Mathematics I/Applied | Prereq: 854-760 | 1 | 2 | FA, SP, SU |
| | 801-301 | | | Writing Principles | Prereq: 851-756 OR 851-756 | 1 | 1 | FA, SP, SU |
| | 442-102 | | * | Intro to Welding | | | 2 | FA, SP, SU |
| | 620-303 | | * | Motors and Ind Electrical Systems | Prereq: 620-302 | | 3 | SP |
| | 620-304 | | * | PLC's and HMI's for Maintenance | Prereq: 620-302 | | 3 | SP |
| | 620-305 | | * | Process and Systems Controls for Maint | Prereq: 620-302; 804-370 | | 3 | SP |
| | 628-115 | | * | Industrial Robotics and Programming | | | 3 | FA, SP |
| | | | | **Minimum Program Total Credits Required** | | | **31** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $2,183 | $5,574 | Electro-Mechanical Technicians (17-3024) |

## Electromechanical Maintenance Technician (31-620-3)

Electromechanical Maintenance Technicians are multi-skilled individuals proficient in many tasks giving them the skills to assemble, install, troubleshoot, repair, and modify machinery. After completing this diploma students will be able to perform repairs, maintenance and troubleshooting on hydraulic, pneumatic systems, motors and motor controls, mechanical drives, PLC's, HMI's and robotic systems. Students will also learn manual machining to fabricate parts, precision measurements, applicable math, communication skills, and industrial safety concepts.

### Program Learning Outcomes

Graduates will be able to:
1. Perform work safely.
2. Troubleshoot electrical and mechanical systems and devices.
3. Repair electrical and mechanical systems.
4. Communicate technical information.
5. Perform basic manual machining and gauging applications.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 31 credits with an average of 2.0.
2. Students must obtain a minimum of 2.0 ("C") or above for major courses

For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|          | Location(s) | Starting Term(s) |
|----------|-------------|------------------|
| Days     | Elkhorn     | FA               |
| Evenings | LakeView    | FA               |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See advisor for details.
2. A hand calculator capable of trigonometric functions is required: cost is approximately $25.
3. Safety glasses are required in labs. If prescription safety glasses are necessary, allow a minimum of 90 days.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

**GATEWAY** TECHNICAL COLLEGE

*Science, Technology, Engineering & Mathematics*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 605-113 | 🎓 | * | DC/AC I | | 4 | 3 | FA, SP |
| | 605-130 | | * | Digital Electronics | | 4 | 4 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,4 | 3 | FA, SP, SU |
| | 804-115 | | | College Technical Math 1 | Prereq: 834-110 | 1,4 | 5 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | 605-114 | | * | DC/AC II | Prereq: 605-113 Coreq: 804-115 | 4 | 3 | FA, SP, SU |
| | 605-120 | | * | Electronic Devices I | Prereq: 605-113 | 4 | 4 | FA, SP, SU |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 804-197 | | | College Algebra & Trig w Apps | Prereq: 804-115 | 4 | 5 | FA, SP, SU |
| | 605-121 | | * | Electronic Devices II | Prereq: 605-120 | | 4 | FA, SP, SU |
| | 605-190 | | * | Microprocessors | Coreq: 605-114; 121; 801-197 | | 4 | FA |
| | 605-133 | | * | Industrial Data Communications | Prereq: 605-113 OR 605-107 | | 3 | SP |
| | 605-138 | | * | Circuit Construction and Repair | | | 3 | FA, SP, SU |
| | 806-154 | | * | General Physics 1 | Prereq: 804-115 | 4 | 4 | FA, SP, SU |
| | 605-150 | | * | Industrial Electronics | Prereq: 605-114; 120 | | 3 | FA, SP, SU |
| | 605-136 | | * | PLC System Design | Prereq: 605-130 | | 3 | SP, SU |
| | 809-195 | | | Economics | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | | | | ***Minimum Program Total Credits Required*** | | | **63** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Electronics (10-605-1)

*Electronics* focuses on the installation, maintenance, modification, diagnosis, and troubleshooting of a wide variety of electronic equipment. In addition to comprehensive training in electronic theory, lab experience is an integral part of the program. The study areas include AC/DC principles, transistor operation, digital circuits, microprocessors, optoelectronics, communications, and industrial electronics. The operation and use of various test and diagnostic equipment is included throughout the curriculum. The program prepares the students for a broad range of entry-level electronic technician positions.

### Program Learning Outcomes

Graduates will be able to:
1. Apply electronic theory to practice.
2. Operate test equipment.
3. Build electronic circuits and systems.
4. Evaluate the operation of electronic circuits or systems.
5. Communicate technical information.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 63 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | iMET | FA, SP |

### Suggested Electives

605-181 Computer Hardware Arch
605-182 Computer Interfacing Tech

605-184 Data Acquisition
809-196 Sociology, Introduction to

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days before the program start to obtain prescription and glasses.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Electronics

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**EQUAL OPPORTUNITY EMPLOYER AND EDUCATOR/EMPLEADOR Y EDUCADOR QUE OFRECE IGUALDAD DE OPORTUNIDADES**

# Electronics Technician Fundamentals (30-605-1)
## Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 605-113 | 🎓 | * | DC/AC I | | 3 | 3 | FA, SP |
| | 605-130 | | * | Digital Electronics | | 3 | 4 | FA, SP, SU |
| | 804-115 | | | College Technical Math 1 | Prereq: 834-110 | 1,3 | 5 | FA, SP, SU |
| | 605-114 | | * | DC/AC II | Prereq: 605-113<br>Coreq: 804-115 | 3 | 3 | FA, SP, SU |
| | 605-120 | | * | Electronic Devices I | Prereq: 605-113 | 3 | 4 | FA, SP, SU |
| | 605-138 | | * | Circuit Construction and Repair | | | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **22** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-605-1 Electronics program can earn their associate degree by completing an additional 41 credits.
Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books & Supplies | Resident Tuition and Fees | On-Time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $1,501 | $3,788 | 100% | Electronics Engineering Technicians (17-3023) |

2 On-time Graduation Rate: Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Electronics Technician Fundamentals (30-605-1)

*Electronics Technician Fundamentals* focuses on the installation and assembly of a wide variety of electronic equipment. In addition to comprehensive training in electronic theory, lab experience is an integral part of the program. The study areas include AC/DC principles, transistor operation, digital circuits, soldering, and fabrication techniques. The operation and use of various test and diagnostic equipment is included throughout the curriculum. The program prepares the students for a broad range of entry-level electronic assembly positions.

### Program Learning Outcomes
Graduates will be able to:
1. Relate electronic theory to practice.
2. Operate test equipment.
3. Repair electronic circuits and systems.
4. Install electronic circuits or systems.
5. Communicate basic technical information.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 22 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|                 | Location(s) | Starting Term(s) |
| --------------- | ----------- | ---------------- |
| Days & Evenings | iMET        | FA, SP           |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days before the program start to obtain prescription and glasses.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

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**EQUAL OPPORTUNITY EMPLOYER AND EDUCATOR/EMPLEADOR Y EDUCADOR QUE OFRECE IGUALDAD DE OPORTUNIDADES**

## Emergency Medical Technician (30-531-3)
Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|
| | 531-326 | Emergency Medical Technician | Prereq: Program Admission | | 5 | FA, SP, SU |
| | | **Minimum Program Total Credits Required** | | | **5** | |

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**Emergency Medical Technician (30-531-3)**

*Emergency Medical Technician* is a 180 hour entry-level training in emergency medicine. This program provides students the skills and knowledge needed to assess and manage all types of injuries and acute illnesses while providing safe and rapid patient transport to an appropriate medical facility. Components of the course include lecture, practical lab, and hospital clinical experience. Upon program completion, students are prepared to take the National Registry of Emergency Medical Technicians® examination to be licensed as an Emergency Medical Technician in Wisconsin. Students wishing to pursue other levels of EMS licensure, such as Advanced EMT or Paramedic, must first be licensed as an Emergency Medical Technician before being eligible to register in subsequent EMS licensure programs.

**Program Learning Outcomes**

Graduates will be able to:

1. Understand the legal liabilities and requirements of professional conduct to operate as an Emergency Medical Technician as outlined in HSS 110 of the Wisconsin Administrative Code.
2. Demonstrate skills in patient extrication, packaging, and safe movement.
3. Perform cardiac arrest management and airway management of the adult and pediatric patient.
4. Perform a successful assessment, treatment plan, and packaging for trauma and medical patients in both the adult and pediatric population.
5. Demonstrate the ability to interact with patients in a compassionate and professional manner.

**Core Abilities**

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

**Admission Requirements**

1. Students must submit an application & $30 fee.
2. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

**Graduation Requirements**

1. Minimum 5 credits with an average of 2.0 or above.

For a complete list of Graduation Requirements, check the Student Handbook.

**Program Offerings**

|          | Location(s) | Starting Term(s) |
|----------|-------------|------------------|
| Days     | HERO Center | FA, SP, SU       |
| Evenings | HERO Center | FA, SP           |

Emergency Medical Technician

## EMT - Paramedic (31-531-1)
### Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 531-911 | | * | EMS Fundamental | Prereq: 838-105 | 1,2,6 | 2 | SU |
| | 531-912 | 🎓 | * | Paramedic Medical Principles | Coreq: 531-911 | | 4 | FA |
| | 531-913 | 🎓 | * | Adv. Patient Asses. Principles | Coreq: 531-911 | 6 | 3 | FA |
| | 531-914 | | * | Adv. Pre-Hospital Pharmacology | Coreq: 531-911 | 6 | 3 | FA |
| | 531-915 | | * | Paramedic Respiratory Mgt. | Coreq: 531-911 | 6 | 2 | FA |
| | 531-925 | | * | Paramedic HPS Lab | Coreq: 531-912 | | 4 | FA |
| | 531-926 | | * | Paramedic Hospital Field | Coreq: 531-912 | 3,4,6 | 1 | FA |
| | 531-955 | | * | Paramedic Cardiology 1 | Coreq: 531-915 | 6 | 2 | FA |
| | 531-956 | | * | Paramedic Cardiology 2 | Prereq: 531-955 | | 2 | SP |
| | 531-918 | | * | Adv. Emergency Resuscitation | Coreq: 531-955 | 6 | 1 | SP |
| | 531-919 | | * | Paramedic Medical Emergencies | Coreq: 531-955 | | 4 | SP |
| | 531-920 | 🎓 | * | Paramedic Trauma | Coreq: 531-955 | | 3 | SP |
| | 531-921 | | * | Special Patient Populations | Coreq: 531-955 | | 3 | SP |
| | 531-922 | | * | EMS Operations | Coreq: 531-955 | 6 | 1 | SP |
| | 531-923 | | * | Paramedic Capstone | Coreq: 531-955 | | 1 | SP |
| | 531-927 | | * | Paramedic Hospital/Field II | Coreq: 531-955 | 3,4,6 | 2 | SP |
| | | | | ***Minimum Program Total Credits Required*** | | | ***38*** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-531-1 Paramedic Technician program can earn their associate degree by completing an additional 26 credits. Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $2,593 | $6,405 | EMTs and Paramedics (29-2041) |

## EMT - Paramedic (31-531-1)

*Paramedic* requires students to be licensed in Wisconsin at the Emergency Medical Technician (EMT), Advanced EMT (EMT Intermediate Technician), or EMT Intermediate level and be current in Healthcare Provider CPR. Paramedics can perform more acute care and administer advanced drug therapies. They can also perform surgical procedures to open airways and provide resuscitative drugs. Paramedics have an increased knowledge of lifesaving skills as well as advanced emergency assessment expertise. This program is offered on a part time basis: either two evenings a week and Saturdays or an alternating day class 2-3 days a week to accommodate the typical 24 hour on/48 hour off schedule worked by many FF/EMS agencies. At the end of the program, students will take a final Gateway Technical College written and practical exam, and after successful completion students will be eligible to test and credential through the National Registry of Emergency Medical Technicians®. The program includes approximately 650 hours of classroom lecture and skills lab, and approximately 500 hours of supervised hospital clinical and field time. Satisfactory completion of clinical/field time is competency based so actual number of hours may vary from student to student. Graduates of this program can expect to find employment with private ambulance companies, fire departments, or hospital emergency rooms. Students finishing the first two semesters of the program (the 531 courses) are eligible to receive the Paramedic Technical Diploma (31-531-1). All courses in the EMT-Paramedic diploma program can be applied to the Paramedic Technician associate degree.

**Program Goal:** To prepare competent entry-level Emergency Medical Technician-Paramedics in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains, with or without exit points at the Emergency Medical Technician-Intermediate and/or Emergency Medical Technician-Basic, and/or First Responder levels.

### Program Learning Outcomes

Graduates will be able to:
1. Prepare for incident response and EMS operations.
2. Integrate pathophysiological principles and assessment findings to provide appropriate patient care.
3. Demonstrate paramedic skills associated with established standards and procedures for a variety of patient encounters.
4. Communicate effectively with others.
5. Demonstrate professional behavior.
6. Meet state and national competencies listed for paramedic credentialing.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must have current CPR certification.
4. Students must have current Wisconsin EMS licensure.

5. Students must submit official high school, GED, or HSED transcript.
6. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.
7. Students must complete a Background Disclosure Form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.

### Graduation Requirements

1. Minimum 38 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | HERO Center | SU |
| Evenings | HERO Center | SU |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Prior to enrolling in paramedic level courses, a student must satisfactorily complete an EMS specific pre-admission screening which includes both written and practical components at the Emergency Medical Technician level (EMT) and attend an informational orientation with the program staff.
3. Drug testing and immunizations are required prior to admission to the first clinical course (531-926 or 531-927).
4. Applicants of this program are subject to a review of their criminal backgrounds as part of the training center training permit process. Positive background checks may negatively impact your ability to pursue this career at Gateway Technical College.
5. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
6. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

**The EMT Paramedic Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).**

Commission on Accreditation of Allied Health Education Programs
25400 US Highway 19 N., Suite 158
Clearwater, FL 33763
727-210-2350
www.caahep.org

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult Web Advisor for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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# Facilities Maintenance (31-443-2)
## Technical Diploma
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 442-101 | *OR* | Welding Basics | | | 1 | FA, SP, SU |
| | 443-101 | | Forklift Operation & Maintenance | | 3 | | FA, SP |
| | 601-111 | 🎓 * | Workplace Fundamentals | Coreq: 804-370 | | 1 | FA, SP, SU |
| | 605-107 | * | Fund. of Electricity/Electronics | | 2,3 | 3 | FA, SP |
| | 804-370 | | Mathematics I, Applied | Prereq: 854-760 | 1 | 2 | FA, SP |
| | 801-302 | | Speaking Principles | | | 1 | SP |
| | 443-312 | * | Basic Carpentry and Repair | Coreq: 601-111 | | 2 | FA |
| | 443-315 | * | Industrial Preventative Maintenance | Coreq: 601-111 | | 2 | SP |
| | 443-311 | * | Electrical Applications | Prereq: 605-107 Coreq: 601-111 | | 3 | SP |
| | 443-313 | * | Interior Finishing | Coreq: 601-111 | | 2 | SU |
| | 443-314 | * | Mechanical Systems | Coreq: 601-111 | | 2 | FA |
| | 461-120 | * | Small Power Equipment | | | 3 | FA, SP |
| | 801-301 | | Writing Principles | Prereq: 851-756 | | 1 | FA, SP, SU |
| | 601-112 | * | Environmental Systems | Coreq: 601-111; 801-301 | | 2 | SU |
| | | | **Minimum Program Total Credits Required** | | | **25** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $1,910 | $5,036 | Maintenance and Repair Workers (49-9071) |

## Facilities Maintenance (31-443-2)

*Facilities Maintenance* provides the training needed to service, maintain, and operate equipment found in public, commercial, and other buildings. Typical operations employing facilities (building) maintenance workers include hospitals, government buildings, schools, hotels, apartment buildings, light manufacturing facilities, and office buildings. The required skills and knowledge include basic carpentry, basic electricity, basic HVAC (heating, ventilating, and air conditioning), basic plumbing, electrical control devices, and safety.

### Program Learning Outcomes
Graduates will be able to:
1. Repair/replace basic electrical components.
2. Perform preventative maintenance procedures.
3. Perform basic drywall repairs.
4. Perform basic plumbing repairs.
5. Use portable tools safely.
6. Apply sustainable practices to facility operations.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 25 credits with an average of 2.0 or above.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Evenings | Kenosha | FA |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment.  See an advisor for details.
2. 605-107 Course Cost includes Snap On Digital Multi Meter #EEDM525D.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

# Fire Medic (10-531-2)
## Associate of Applied Science
### Effective 2019/2020

Law, Public Safety, Corrections & Security

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,7 | 3 | FA, SP, SU |
| | 503-192 | | | Principles of Em Serv Safety & Survival | | | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 809-172 | | | Diversity Studies, Introduction to | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,6,7 | 3 | FA, SP, SU |
| | 801-196 | | | Oral/Interpersonal Communication | | 1 | 3 | FA, SP, SU |
| | 503-143 | | | Building Construction | | | 3 | FA, SP |
| | 503-130 | | * | Firefighter Health & Wellness | | | 2 | FA, SP |
| | 503-120 | | | Internship | Prereq: 503-142 | | 2 | FA, SP |
| | 531-911 | | * | EMS Fundamental | Prereq: 838-105 | 1,2 | 2 | SU |
| | 531-912 | 🎓 | * | Paramedic Medical Principles | Coreq: 531-911 | | 4 | FA |
| | 531-913 | 🎓 | * | Adv. Patient Asses. Principles | Coreq: 531-911 | | 3 | FA |
| | 531-914 | | * | Adv. Pre-Hospital Pharmacology | Coreq: 531-911 | | 3 | FA |
| | 531-915 | | * | Paramedic Respiratory Mgt. | Coreq: 531-914 | | 2 | FA |
| | 531-925 | | * | Paramedic HPS Lab | Coreq: 531-912 | | 4 | FA |
| | 531-926 | | * | Paramedic Hospital Field | Coreq: 531-912 | 3,4 | 1 | FA |
| | 531-955 | | * | Paramedic Cardiology 1 | Coreq: 531-915 | | 2 | FA |
| | 531-918 | | * | Adv. Emergency Resuscitation | Coreq: 531-955 | | 1 | SP |
| | 531-919 | | * | Paramedic Medical Emergencies | Coreq: 531-955 | | 4 | SP |
| | 531-920 | 🎓 | * | Paramedic Trauma | Coreq: 531-955 | | 3 | SP |
| | 531-921 | | * | Special Patient Populations | Coreq: 531-955 | | 3 | SP |
| | 531-922 | | * | EMS Operations | Coreq: 531-955 | | 1 | SP |
| | 531-923 | | * | Paramedic Capstone | Coreq: 531-955 | | 1 | SP |
| | 531-927 | | * | Paramedic Hospital Field II | Coreq: 531-912 | 3,4 | 2 | SP |
| | 531-956 | | * | Paramedic Cardiology 2 | Prereq: 531-955 | | 2 | SP |
| | | | | ***Minimum Program Total Credits Required*** | | | ***63*** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Fire Medic (10-531-2)

*Fire Medic* graduates apply Fire Service safety & survival and health & wellness principles to their own professional lives. Students also prepare for the candidate physical ability test (CPAT) certificate and earn a paramedic license. The degree program includes an internship along with building construction and principles of emergency services safety & survival to assure students develop life-long learning and living habits to become safe and effective professional Fire Medic providers.

This program may be completed in two years of study if taken full-time.
The Paramedic portion requires students to be licensed in Wisconsin at the Emergency Medical Technician (EMT), Advanced EMT (EMT Intermediate Technician), or EMT Intermediate level and be current in Healthcare Provider CPR. Paramedics can perform more acute care and administer advanced drug therapies. Paramedics have an increased knowledge of lifesaving skills as well as advanced emergency assessment expertise. At the end of the program, students will take a final Gateway Technical College written and practical exam, and after successful completion students will be eligible to test and credential through the National Registry of Emergency Medical Technicians®. The program includes approximately 650 hours of classroom lecture and skills lab, and approximately 500 hours of supervised hospital clinical and field time. Students who successfully complete the 531 courses are eligible to receive the Paramedic Technical Diploma (31-531-1). All courses in the EMT-Paramedic diploma can be applied to the Paramedic Technician associate degree.

### Program Learning Outcomes
Graduates will be able to:
1. Prepare for incident response and emergency operations.
2. Integrate pathophysiological principles and assessment findings to provide appropriate patient care.
3. Demonstrate paramedic skills associated with established standards and procedures for a variety of patient outcomes.
4. Communicate effectively with others.
5. Demonstrate professional behavior
6. Meet state and national competencies listed for paramedic certification(s).
7. Perform essential firefighting skills to reduce loss of life and property.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete Firefighter 1 certification prior to admission.
5. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.
6. Students must have current CPR certification.

7. Students must have current Wisconsin EMS licensure.
8. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.

### Graduation Requirements
1. Minimum 63 credits with an average of 2.0 or above.
2. *Minimum grade of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | HERO Center | SU |

**Students may only start the Paramedic portion of the program in SU.

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Prior to enrolling in paramedic level courses (531), a student must satisfactorily complete an EMS specific pre-admission screening which includes both written and practical components at the Emergency Medical Technician level (EMT) and attend an informational orientation with program staff.
3. Drug testing and immunizations are required prior to admission to the first clinical course (531-926 or 531-927).
4. Applicants of this program are subject to review of their criminal backgrounds as part of the training center training permit process. Positive background checks may negatively impact your ability to pursue this career at Gateway Technical College.
5. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
6. Transfer credits in Social Science may substitute for this course. See an advisor for details.
7. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.
8. The EMT Paramedic Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

Commission on Accreditation of Allied Health Education Programs
25400 US Highway 19 N., Suite 158
Clearwater, FL 33763
727-210-2350
www.caahep.org

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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# Firefighter Technician (31-503-1)
### Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 531-326 | | * | Emergency Medical Technician | Prereq: Program Admission | | 5 | FA, SP |
| | 503-142 | | * | Firefighting Principles | | 2 | 4 | FA, SP |
| | 503-151 | | * | Fire Prevention | | 2 | 4 | FA, SP |
| | 503-130 | ☛ | * | Firefighter Health & Wellness | | | 2 | FA, SP |
| | 503-106 | | * | Firefighting Principles II | Prereq: 503-142 | 2 | 3 | FA, SP |
| | 503-155 | | * | Fire Protection Hydraulics | Prereq: 503-142 | 2 | 4 | FA, SP |
| | 503-143 | | * | Building Construction | | | 3 | FA, SP |
| | 503-192 | ☛ | * | Principles of Em Serv Safety & Survival | | | 3 | FA, SP |
| | 503-120 | | * | Internship | Prereq: 503-142 | | 2 | FA, SP |
| | | | | ***Minimum Program Total Credits Required*** | | | ***30*** | |

☛ = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $2,047 | $5,309 | Municipal Firefighters (33-2011) |

## Firefighter Technician (31-503-1)

The *Firefighter Technician* diploma will provide applicants with foundational entry level knowledge and practice to pursue a career in the fire service. Students are able to complete five advanced firefighting tactics, apply health & wellness principles to their own professional lives, and prepare for the candidate physical ability test (CPAT) certificate. Requisite building construction, fire behavior, fire protection systems, fire department risk management and soft skills are stressed, along with life-long learning and living habits to become safe and effective fire service professionals. Students will be eligible for employment as a firefighter for volunteer or career service. Additionally, the diploma provides a pathway to the Fire Medic and Paramedic Associate Degree Programs.

### Program Learning Outcomes

Graduates will be able to:
1. Demonstrate professional conduct by displaying personal code of ethics, positive work ethic, flexibility, teamwork skills, physical fitness, safe procedures, and sensitivity to diverse cultures and individuals.
2. Apply incident management skills to emergency incidents.
3. Meet professional fire and EMS credentialing standards.
4. Communicate clearly and effectively both verbally and through written documentation with clients, coworkers, other agencies, and supervisors.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.
4. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements

1. Minimum 30 credits with an average of 2.0 or above.
2. *Minimum of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | HERO Center | FA |

### Notes

1. Eye protection may be required in some courses. If prescription safety glasses are required, please allow a minimum of 90 days before the program start to obtain prescription and glasses.
2. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

**GATEWAY** TECHNICAL COLLEGE

# Foundations of Lodging & Hospitality Management (30-109-3)
Technical Diploma
**Effective 2019/2020**

Hospitality & Tourism

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 109-101 | 🎓 | * | Principles of Hospitality | | | 3 | FA, SP, SU |
| | 109-122 | 🎓 | * | Intro to Service | | 1 | 3 | FA |
| | 109-171 | | * | Hospitality Sales and Marketing | | 1 | 3 | FA |
| | 109-125 | | * | Hospitality Managerial Accounting | | 1 | 3 | FA |
| | 109-114 | | * | Managing Serv. in the Hosp. Industry | | 1 | 3 | SP |
| | 109-126 | | * | Advanced Customer Service Mang | Prereq: 109-122 | | 3 | SP |
| | 196-190 | | * | Leadership Development | | 1 | 3 | FA, SP, SU |
| | | | | ***Minimum Program Total Credits Required*** | | | **21** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-109-2 Hospitality Management program can earn their associate degree by completing an additional 39 credits.
Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books & Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $1,433 | $3,317 | Lodging Managers (11-9081) |

## Foundations of Lodging & Hospitality Management (30-109-3)

*Foundations of Lodging and Hospitality Management* prepares students to enter the customer-focused hospitality field at a support level. The program focuses on customer service, operations, problem-solving, and cost control skills that are related to the hospitality industry. Students will explore the tourism, lodging, and foodservice industries within their coursework and internships. Graduates will be prepared for jobs such as events coordinator, dining room manager, guest services coordinator, or reservations manager.

### Program Learning Outcomes
Graduates will be able to:
1. Manage the operations within a hospitality establishment.
2. Choose hospitality resources to achieve the goals of the establishment.
3. Manage processes to meet the establishment goals.
4. Direct hospitality process and procedures.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 21 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Racine | FA, SP, SU |
| Evenings | Racine | FA, SP, SU |
|  | Online | FA, SP, SU |

### Notes
1. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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# Foundations of Teacher Education (10-522-2)
## Associate of Applied Science
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 522-103 | | * | EDU: Introduction to Educational Practices | | | 3 | FA, SU |
| | 522-106 | | * | EDU: Child and Adolescent Development | | | 3 | FA, SP |
| | 522-111 | 🎓 | * | EDU: Guiding and Managing Behavior | | | 3 | FA, SU |
| | 804-135 | 🎓 | | Quantitative Reasoning | Prereq: 834-109 | 2 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 2,6 | 3 | FA, SP, SU |
| | 522-102 | 🎓 | * | EDU: Techniques for Reading and Language Arts | Prereq: 838-105 | 2 | 3 | SP |
| | 522-107 | | * | EDU: Overview of Special Education | | | 3 | SP, SU |
| | 522-118 | | * | EDU: Techniques for Math | Prereq: 804-135 | | 3 | SP |
| | 801-196 | | | Oral/Interpersonal Communication | | 2 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 2,4,6 | 3 | FA, SP, SU |
| | 522-122 | | * | EDU: Advanced Reading/Language Arts | Prereq: 522-102; 801-136 | | 3 | FA |
| | 522-132 | | * | EDU: Positive Classroom Mgt Tech | Prereq: 522-111 | | 3 | FA |
| | 522-101 | | * | EDU: Teamwork in School Settings | | | 3 | FA |
| | 522-129 | 🎓 | * | EDU: Practicum 1 | Prereq: Advisor Consent | 1,3 | 3 | FA, SP |
| | 809-172 | | | Diversity Studies, Introduction to | | | 3 | FA, SP, SU |
| | 809-188 | | | Psychology, Developmental | Prereq: 838-105 | 2 | 3 | FA, SP, SU |
| | 522-104 | | * | EDU: Technology in Education | | | 3 | SP |
| | 522-120 | | * | EDU: Techniques for Science | | | 3 | SP |
| | 522-124 | | * | EDU: Supporting Students with Disabilities | | | 3 | SP |
| | 522-131 | | * | EDU: Practicum 2 | Prereq: 522-129; 118; 122 | 1,3 | 3 | FA, SP |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 2,4,6 | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **63** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Foundations of Teacher Education (10-522-2)

*Foundations of Teacher Education* is an Associate of Applied Science degree, which prepares qualified individuals to work directly with students under the supervision of a licensed teacher. The duties include assisting children with math, reading, and writing assignments, as well as handling classroom management, clerical, and other tasks related to instruction. This program meets Title I requirements. Duties may also include monitoring student activities, correcting papers, tutoring, one-on-one activities, and small group facilitation. In addition, instructional assistants work on classroom displays, assist children with computers and media, and supervise various classroom and school events. Instructional assistants may be hired to provide instructional services to students from pre-k through high school; however, the focus of this program is on preparing grads to work primarily in elementary and middle school levels.

### Program Learning Outcomes

Graduates will be able to:
1. Demonstrate instructional support strategies for content areas
2. Implement developmentally appropriate practices to foster learning
3. Adapt instruction to meet the diverse needs of all learners
4. Use proactive classroom management techniques
5. Perform professional responsibilities
6. Incorporate the reflective process to promote professional growth

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a background information form and pay a criminal background check fee. Applicants of this program are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue this career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.
5. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements

1. Minimum 63 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

| | Location(s) | Starting Term(s) |
| --- | --- | --- |
| | Online | FA |

### Notes

1. This course requires advisor consent, which will only be given when proper physical and immunization records are submitted. Students must submit all health and immunization forms prior to the first day of attending these courses.
2. Any course may be taken prior to entry in the program, assuming prerequisites and co-requisites have been satisfied (or waived with department approval).
3. Admittance into the Foundations of Teacher Education program is required before taking this course.
4. Transfer credits in Social Science may substitute for this course. See an advisor for details.
5. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
6. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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## Gas Utility Construction and Service (31-469-2)
### Technical Diploma
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 804-370 | | Mathematics I/Applied | Prereq: 854-760 | 1 | 2 | FA, SP, SU |
| | 469-301 | * | Intro to Gas Utility Industry | | | 1 | FA |
| | 469-302 | 🎓 * | Site Safety | | | 2 | FA |
| | 469-311 | * | Equipment Operations: Intro | Coreq: 469-302 | | 3 | FA |
| | 469-313 | * | Gas Utility Tool Fundamentals | | | 1 | FA |
| | 801-302 | | Speaking Principles | | | 1 | SP |
| | 801-301 | | Writing Principles | Prereq: 851-756 | 1 | 1 | FA, SP, SU |
| | 469-314 | * | Plastic Piping | | | 1 | SP |
| | 442-102 | * | Intro to Welding | | | 2 | FA, SP, SU |
| | 469-312 | * | Field Operations | Prereq: 469-302; 311; 804-370 | | 4 | SP |
| | 469-306 | * | Steel Piping | Coreq: 442-102 | | 2 | SP |
| | 469-305 | * | CDL Prep for Utility Workers | Coreq: 801-301 | 5 | 1 | SP |
| | 469-309 | * | Gas Appliance Operation | | | 3 | SP |
| | | | ***Minimum Program Total Credits Required*** | | | **24** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | On-time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $2,183 | $5,959 | 38% | Control and Valve Installers and Repairers, Except Mechanical Door (49-9012) |

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Gas Utility Construction and Service (31-469-2)

This technical diploma prepares the individual for a career in the Gas Utilities. The program emphasizes the skills needed to install, inspect, repair and maintain natural gas and propane gas distribution systems. Students will develop competencies in the operation of common construction equipment, polyethylene and steel pipe construction and gas appliance operation, start-up and safety. The Programs outcomes are aligned and verified through calibration with Midwest Energy Operator Qualification modules.

### Program Learning Outcomes

Graduates will be able to:
1. Communicate technical information.
2. Operate construction tools and equipment.
3. Join polyethylene and steel pipe.
4. Install gas piping for natural and propane gases.
5. Maintain gas distribution systems.
6. Service gas appliances.
7. Apply customer service skills.
8. Develop skills to pass the State of Wisconsin CDL knowledge exam.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.

### Graduation Requirements

1. Minimum 24 credits with an average of 2.0 or above in general education courses.
2. Students must obtain a minimum of 2.0 ("C") in all core classes to align with Midwest Energy Association (MEA) and Operator Qualified Standards to utility workers Mandated by the Federal Office of Pipeline Safety.

For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|      | Location(s) | Starting Term(s) |
|------|-------------|------------------|
| Days | Kenosha     | FA               |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Safety glasses are required in labs. If prescription safety glasses are required, allow a minimum of 90 days before the program start to obtain prescription and glasses.
3. Individuals in program must be able to obtain a Commercial Driver's License.
4. Due to Office of Pipeline Safety requirements, students must pass a background check and drug/alcohol screen conducted by a 3rd party.
5. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

**Gerontological and Rehabilitative Nursing Care** (10-810-21)
Advanced Technical Certificate
**Effective 2019/2020**

*ealth Science*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 510-155 | * | Principles of Gerontological Nursing | Prereq: Instructor Consent | | 3 | FA |
| | 510-156 | * | Assessment of the Older Adult | Prereq: 510-155 & Instructor Consent | | 3 | SP |
| | 510-157 | * | Rehab Care and Chronic Disease Mgmt | Prereq: 510-155 & Instructor Consent | | 3 | SU |
| | | | ***Minimum Program Total Credits Required*** | | | ***9*** | |

## Gerontological and Rehabilitative Nursing Care (10-810-21)

The ATC in Gerontological and Rehabilitative Nursing Care will enhance the nurse's knowledge and skills in the principles needed for providing expert nursing care for the aging population with a rigorous review of relevant material. There will be a strong emphasis on physiology and evidence based practice. Courses are offered entirely online. Application of theory and promotion of critical reasoning will be supported through the use of unfolding case studies and scenarios.

### Equivalency

This program is designed for students who have completed one of the following Gateway Technical College Associate Degrees (or have the equivalent knowledge and skills):

10-543-1 Nursing-Associate Degree

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information, call the campus advisor.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Related associate degree (official transcript required) or equivalent work experience (documented by advisor) required.

### Graduation Requirements

1. Nine credits with a minimum of "C" or better on all courses.
For a complete list of Graduation Requirements, check the Student Handbook.

**Program Offerings**

|      | Location(s) | Starting Term(s) |
|------|-------------|------------------|
| Days | Kenosha     | FA               |

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult Web Advisor for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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# Graphic Communications (10-204-3)
## Associate of Applied Science
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 204-100 | 🎓 | * | Design Concepts | | | 4 | FA, SP |
| | 204-105 | | * | Comp. Illustration & Drawing Tech | | 4 | 3 | FA, SP, SU |
| | 204-107 | | * | Digital Photography, Intro to | | 4 | 3 | FA, SP, SU |
| | 204-125 | | * | Illustration Media Concepts | Coreq: 801-136 | 4 | 3 | FA, SP |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,4 | 3 | FA, SP, SU |
| | 204-116 | | * | Web Page Design For Graphic Designers | Prereq: 204-107 | | 3 | FA, SP, SU |
| | 204-120 | | * | Multimedia Survey | Coreq: 804-135 | | 3 | FA, SP, SU |
| | 204-140 | 🎓 | * | Design Publishing & Prepress | Prereq: 204-100 | | 4 | SP, SU |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 204-109 | 🎓 | * | Graphic Design Professional Practices | Prereq: 204-140 | 1 | 3 | FA |
| | 204-134 | | * | Advanced Problems in Graphic Design | Prereq: 204-140 | | 3 | FA |
| | 204-135 | | * | Advanced Design Concepts | Prereq: 204-140 | | 4 | FA |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | 204-142 | | * | Applied Exit Strategies/Display Graphic | Prereq: 204-109 | | 3 | SP |
| | 204-143 | | * | Advanced Illustration | Prereq: 801-136; 804-135 | | 3 | SP |
| | 801-198 | | | Speech | | 1 | 3 | FA, SP, SU |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **60** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Graphic Communications (10-204-3)

*Graphic Communications* educates students in the practice of design, illustration, and reproductive processes related to the print and audio visual media. Course work includes basic illustration, visual communication, and reproductive concepts with emphasis on development in computer graphic skills. The program includes certain aspects of commercial art and communication/computer graphics, with emphasis on skills training required for the increasingly technological focus of graphic design in today's workplace.

### Program Learning Outcomes
Graduates will be able to:
1. Apply principles of design to develop strategic marketing and communication products and services.
2. Demonstrate proficiency in the use of design software, tools, and technology.
3. Implement creative solutions from concept through completion using a formal process.
4. Apply effective legal and ethical business practices and project management skills.
5. Communicate artwork rationale in formal and informal settings.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 60 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Elkhorn, Racine | FA |
| Evenings | Racine | FA |
|  | Online | SP |

### Suggested Electives

| | |
|---|---|
| 102-138 Biz Internship | 204-149 Advanced Web Page Design |
| 204-115 Advanced Digital Photography | 809-166 Ethics |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Gateway has many articulation agreements with four-year colleges and universities. If you are planning on transferring to a four-year institution please review this information online at gtc.edu/transfer. If an institution is not listed please contact them directly to see which courses transfer. You may also contact your advisor for more information.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's Graphic Communications program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

## Greenhouse Operations (10-001-6)
### Associate of Applied Science
**Effective 2019/2020**

Agriculture, Food & Natural Resources

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 001-185 | 🎓 | * | Intro to Horticulture | | | 3 | FA, SP |
| | 001-143 | | * | Herbaceous Plants | Coreq: 001-185 | | 3 | FA, SU |
| | 001-146 | | * | Sustainable Landscape | | | 1 | FA, SU |
| | 001-147 | 🎓 | * | Soils and Plant Nutrition | | | 1 | FA, SP |
| | 001-148 | | * | Plant Pests and Beneficials | | | 1 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1, 3 | 3 | FA, SP, SU |
| | 001-129 | | * | Pesticide Applicator Certification | | | 1 | SP, SU |
| | 001-128 | | * | Horticulture Marketing | | | 3 | SP |
| | 001-142 | | * | Vegetable Science | | | 3 | SP, SU |
| | 001-151 | 🎓 | * | Greenhouse Crops | Prereq: 801-136; Coreq: 804-135 | | 3 | SP |
| | 103-143 | | | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1, 3 | 3 | FA, SP, SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | 001-111 | | * | Horticulture Practicum | Prereq: 001-147; 151 | | 3 | SU |
| | 001-104 | | * | Greenhouse Systems | Prereq: 001-151 | | 3 | FA |
| | 001-130 | | * | Landscape Plants Trees/Shrubs Deciduous | Prereq: 001-185 | | 3 | FA, SU |
| | 001-144 | | * | Floral Design I/Commercial | | | 3 | FA, SP |
| | 801-196 | | | Oral/Interpersonal Communication | | 1 | 3 | FA, SP, SU |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1, 2, 3 | 3 | FA, SP, SU |
| | 001-149 | | * | Horticulture Events | Prereq: 001-143 OR 001-144 OR 001-151 | | 3 | SP, SU |
| | 001-154 | | * | Alternative Growing Methods | Prereq: 001-104 OR 140; 001-151 | | 3 | SP |
| | 001-180 | | * | Horticulture Portfolio | Prereq: 001-111; 128; 130; 143; 147; 151; 801-136; 804-135 | | 1 | SP |
| | 104-104 | | * | Selling Principles | | | 3 | FA, SP |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1, 2, 3 | 3 | FA, SP, SU |

| | **Minimum Program Total Credits Required** | **62** | |
|---|---|---|---|

### AVAILABLE CONCENTRATION: LANDSCAPE

| Instead of these courses | Take these alternates | | Credits | Terms |
|---|---|---|---|---|
| 001-104 Greenhouse Systems | *001-140 Landscape Design | | 3 | FA, SU |
| 001-144 Floral Design I/Commercial | *001-136 Landscape Management | | 3 | FA, SU |
| 001-149 Horticulture Events | *001-132 Landscape Plants Evergreen | Prereq: 001-185 | 3 | SP |
| 104-104 Selling Principles | *001-122 Horticulture Business Ops. | | 3 | SP |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Greenhouse Operations (10-001-6)

The Greenhouse Operations program trains students in greenhouse growing and operations, hydroponics, and retail garden center and floral shop management. Hands-on experience in a commercial greenhouse, ornamental gardens and an operating urban farm are part of the learning experience. Plant identification, care and culture are key elements of the program, as are technical and graphic skills, sustainable methods for plant care and creative approaches to problem solving and landscape design. Students can gain a specialized skill set in landscape which emphasizes landscape design, sustainable landscape management, and landscape estimating and business operations. Students engage in various industry visits to enhance the learning experience.

### Program Learning Outcomes

Graduates will be able to:
1. Analyze growing media.
2. Diagnose plant health.
3. Communicate as a horticulture professional.
4. Apply design principles.
5. Provide horticulture maintenance.
6. Apply the principles of plant science.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 62 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|        | Location(s) | Starting Term(s) |
|--------|-------------|------------------|
| Days   | Kenosha     | FA               |

### Suggested Electives

001-103 Permaculture
001-109 Urban Farming and Mkt. Gard.
001-150 Floristry
001-153 Fruit Science
001-186 People, Resources & Sustainability

001-108 Business of Urban Farming
001-117 Landscape Design/Advanced
001-105 Dendrology & Silvics
001-184 Eco. Basis for Natural Res. Mang.
001-199 Fish, Forestry & Wildlife

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Transfer credits in Social Science may substitute for this course. See an advisor for details.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

## Health Information Technology (10-530-1)
### Associate of Applied Science
**Effective 2019/2020**

*Health Science*

**Health Information Technology**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 501-101 | * | Medical Terminology | Prereq: 838-105 | 1,6 | 3 | FA, SP, SU |
| | 501-107 | * | Digital Literacy for Healthcare | | | 2 | FA, SP, SU |
| | 530-162 | 🎓 * | Foundations of HIM | Coreq: 501-107; 806-177 | | 3 | FA |
| | 801-136 | | English Composition 1 | Prereq: 831-103 | 1 | 3 | FA, SP, SU |
| | 801-198 | | Speech | | 1 | 3 | FA, SP, SU |
| | 806-177 | | General Anatomy and Physiology | | | 4 | FA, SP, SU |
| | 530-163 | 🎓 * | Health Stats & Analytics | Prereq: 530-162 | | 3 | SP |
| | 530-178 | * | Healthcare Law & Ethics | Prereq: 530-162 | | 2 | SP |
| | 530-182 | * | Human Diseases for the Health Professions | Prereq: 501-101; 806-177 | | 3 | SP |
| | 809-166 | | Ethics: Theory & Applications, Intro to | Prereq: 838-105 | 1,5 | 3 | FA, SP, SU |
| | 809-196 | | Sociology, Introduction to | Prereq: 838-105 | 1,5,6 | 3 | FA, SP, SU |
| | 809-198 | | Psychology, Introduction to | Prereq: 838-105 | 1,5,6 | 3 | FA, SP, SU |
| | 801-197 | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 530-164 | * | Intro to Health Informatics | Prereq: 501-107 OR 103-143  Coreq: 530-162 OR 530-176; 181 | | 3 | FA |
| | 530-167 | * | Management of HIM Resources | Prereq: 530-162 | | 3 | FA |
| | 530-197 | * | ICD Diagnosis Coding | Prereq: 530-162; 182 | | 3 | FA |
| | 530-199 | * | ICD Procedural Coding | Prereq: 530-162; 182 | | 2 | FA |
| | 530-161 | * | Health Quality Management | Prereq: 801-197 | | 3 | SP |
| | 530-166 | * | HIT Capstone | Prereq: Instructor Consent; Coreq: 530-196 | | 1 | SP |
| | 530-184 | * | CPT Coding | Prereq: 530-162; 182 | | 3 | SP |
| | 530-185 | * | Healthcare Reimbursement | Prereq: 530-197; 199; Coreq: 530-184; 165 | | 2 | SP |
| | 530-165 | * | Intermediate Coding | Prereq: 530-197; 199; Coreq: 530-185 | | 3 | SP |
| | 530-196 | * | Professional Practice | Prereq: 530-164; 167; 178; 197; 199  Coreq: 530-184; 185; 161 | | 3 | SP |
| | | | ***Minimum Program Total Credits Required*** | | | **64** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Health Information Technology (10-530-1)

*Health Information Technology* is a field where healthcare meets the cutting edge of technology. Health Information Technicians are specialists in great demand! The HIM professionals can expect to be in high demand as the health sector expands into the century. In fact, the Bureau of Labor Statistics cites health information technology as one of the fastest growing occupations in the U.S. Health Information Technicians contribute to the quality of care by collecting, analyzing, and reporting health care data. This requires knowledge of disease, treatments, computer systems, and organizational skills.

### Program Learning Outcomes
Graduates will be able to:
1. Apply data governance principles to ensure the quality of health data.
2. Apply coding and reimbursement systems.
3. Model professional behaviors and ethics.
4. Apply informatics and analytics in data use.
5. Apply organizational management techniques.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit application & $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a Background Disclosure form and request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.

### Graduation Requirements
1. Minimum 64 credits with an average of 2.0 or above.
2. *A minimum grade of 2.0 ("C") or above for each of these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|      | Location(s) | Starting Term(s) |
|------|-------------|------------------|
| Days | Racine      | FA               |
|      | Online      | FA               |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Clinical sites may request proof of insurance, criminal background checks, and/or drug testing which could result in additional fees.
3. A liability insurance of approximately $13 in the fourth semester and summer session is required.
4. Students are allowed to repeat any HIT course only one time.
5. Transfer credits in Social Science may substitute for this course. See an advisor for details.
6. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

## Hospitality Management (10-109-2)
### Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 109-101 | ☞ | * | Principles of Hospitality | | | 3 | FA, SP, SU |
| | 103-143 | | | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1,2 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,2 | 3 | FA, SP, SU |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 109-122 | ☞ | * | Intro to Service | | 2 | 3 | FA |
| | 109-114 | | * | Manag. Serv. in the Hosp. Industry | | 2 | 3 | SP |
| | 109-121 | | * | Intro to Hotel Operations | | | 3 | SP |
| | 809-166 | | | Intro to Ethics: Theory & App | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,2,3 | 3 | FA, SP, SU |
| | 109-128 | ☞ | * | Hospitality Front Line Internship | Prereq: 109-101; 801-136; 804-135; Instructor Consent | | 2 | FA, SP, SU |
| | 109-129 | ☞ | * | Hospitality Supervisory Internship | Prereq: Instructor Consent; 109-101; Coreq: 109-128 | | 2 | FA, SP, SU |
| | 809-172 | | | Diversity Studies,  Introduction to | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 109-171 | | * | Hospitality Sales and Marketing | | 2 | 3 | FA |
| | 109-125 | | * | Hospitality Managerial Accounting | | 2 | 3 | FA |
| | 801-198 | | | Speech | | 1 | 3 | FA, SP, SU |
| | 109-110 | | * | Rooms Division Management | | | 3 | FA |
| | 109-124 | | * | Hotel Facilities Management | Prereq: 109-121 | | 3 | FA |
| | 196-190 | | * | Leadership Development | | 2 | 3 | FA, SP, SU |
| | 109-127 | | * | Hotel Strategic Management | | | 3 | SP |
| | 109-126 | | * | Advanced Customer Service Mang | Prereq: 109-122 | 1 | 3 | SP |
| | 109-131 | | * | Hospitality Capstone | Prereq: 109-122; 128; Coreq: 109-129 | | 2 | SP |

| | *Minimum Program Total Credits Required* | **60** | |
|---|---|---|---|

### AVAILABLE CONCENTRATION: FOOD AND BEVERAGE

| Instead of these courses | Take these alternates | | | |
|---|---|---|---|---|
| 109-121 Intro to Hotel Operations | *316-170 Sanitation & Hygiene | | 1 | FA, SP |
| 109-110 Rooms Division Mgmt. | *316-131 Culinary Skills I | Prereq: 804-135; Coreq: 316-170 | 4 | FA, SP |
| 109-124 Hotel Facilities Mgmt. | *316-133 Menu Planning & Cost Control | | 3 | FA, SP |
| 109-127 Hotel Strategic Mgmt. | *316-125 Fine Dining | Prereq: 316-131; 132; 135; 105; 170; 804-135; 801-136; OR 316-131; 109-122 | 3 | SP |
| | *109-123 Bar and Beverage Mgmt. | | 3 | SP |

### AVAILABLE CONCENTRATION: TOURISM AND ATTRACTIONS

| Instead of these courses | Take these alternates | | | |
|---|---|---|---|---|
| 109-121 Intro to Hotel Operations | *109-112 Intro to Tourism | | 3 | SP |
| 109-110 Rooms Division Mgmt. | *109-108 Event Management | | 3 | FA |
| 109-124 Hotel Facilities Mgmt. | *109-113 Tourism Attraction Mgmt. | | 3 | FA |
| 109-127 Hotel Strategic Mgmt. | *109-106 Adv. Tourism Management | Prereq: 109-171; 112 | 3 | SP |

☞ = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Hospitality Management (10-109-2)

*Hospitality Management* prepares students for the exciting and customer focused hospitality field. With a focus on customer service, students will explore the tourism, hotel, and foodservice industries within their coursework and internships. Graduates will have the skills for an entry level position in one of the many local tourism and hospitality establishments including entertainment facilities, tourism attractions, conference centers, hotels, restaurants, and food and beverage operations.

### Program Learning Outcomes
Graduates will be able to:
1. Plan the operations within a Hospitality organization.
2. Organize hospitality resources to achieve the goals of the organization.
3. Direct individual and/or processes to meet organizational goals.
4. Control hospitality process/procedures.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. 60 Credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

| | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Racine | FA |

*Most, but not all, courses are also available online. Please see an advisor for details.

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See advisor for details.
2. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.
3. Transfer credits in Social Science may substitute for this course.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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## Human Service Associate (10-520-3)
Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 103-143 | | | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1,3 | 3 | FA, SP, SU |
| | 520-101 | | * | Human Services, Intro to | | | 3 | FA, SP |
| | 520-105 | 🎓 | * | Interviewing Principles & Recordkeeping | | 3 | 3 | FA, SP |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,3 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,3 | 3 | FA, SP, SU |
| | 520-110 | | * | Community Resources & Services | | | 3 | FA, SP |
| | 520-115 | | * | Counseling, Introduction to | Prereq: 520-105 | 3 | 3 | FA, SP |
| | 520-127 | 🎓 | * | Professional Practices in Human Services | Coreq: 520-101 | 3 | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 809-172 | | | Diversity Studies, Introduction to | Prereq: 838-105 | 1,2 | 3 | FA, SP, SU |
| | 520-124 | 🎓 | * | Field Experience I / Human Services | Prereq: 520-127; 801-136; 804-135; Coreq: 520-140 | 3 | 3 | FA, SP |
| | 520-140 | 🎓 | * | Group Counseling | Prereq: 520-115 | 3 | 3 | FA, SP |
| | 550-130 | | * | Alcohol/Drug Abuse Rehabilitation | | | 3 | FA, SP |
| | 801-196 | | | Oral/Interpersonal Communication | | 1 | 3 | FA, SP, SU |
| | 520-102 | | * | Crisis Intervention | | | 3 | FA, SP |
| | 520-121 | | * | Field Experience II / Human Services | Prereq: 520-140; 520-124 | | 3 | FA, SP |
| | 550-150 | | | Psychopharmacology *OR* | | | 3 | FA, SP |
| | *Take 3 elective credits from the list of suggested electives only. Over for suggested electives.* | | | | | | | |
| | 520-128 | | * | Child Welfare | | 1 | 3 | FA, SP |
| | 520-151 | | * | Family Theory and Practice | | 1 | 3 | FA, SP |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **60** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

# Human Service Associate (10-520-3)

*Human Service Associate* is designed to prepare people for entry level positions in a variety of human service agencies and social service programs. The Human Service Associate program includes a unique combination of the study of aspects of human services, general education subjects, and 300 hours of actual field experience in a community human service agency under the supervision of a working professional. If taken full-time, this program may be completed in four semesters of study.

## Program Learning Outcomes
Graduates will be able to:
1. Model a commitment to cultural competence.
2. Uphold the Ethical Standards and Values for Human Service Professionals.
3. Demonstrate professionalism.
4. Utilize community resources.
5. Apply human services interventions and best practices.
6. Cultivate professional relationships.

## Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

## Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

## Graduation Requirements
1. Minimum 60 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

## Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | Racine | FA, SP |

## Suggested Electives

| | |
|---|---|
| 550-154 Family & Chemical Abuse | 520-150 Gerontology/Intro to |
| 550-156 Mental Health/Sub Abuse | 520-152 Aspects of Disabilities |
| 520-161 Child and Adolescent Mental Health | 699-136 Grant Writing Proposals |
| 809-188 Developmental Psychology | 809-159 Abnormal Psychology |

## Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Transfer credits in Social Science may substitute for this course. See an advisor for details.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

# Individualized Technical Studies (10-825-1)
## Associate of Applied Science
### Effective 2019/2020

## Individualized Technical Studies (10-825-1)

*Individualized Technical Studies* is designed for employed individuals in partnership with their respective employer, desiring to combine skills and knowledge from different academic disciplines. The degree is designed to meet specific educational needs of students whose career goals do not align with current academic programs. Career goals are identified with the input of the student, a Gateway advisor, and an occupational mentor. A formal portfolio is developed to define career goals, document appropriate learning experiences, and formulate a plan for degree completion. Courses from all departments within the college are available for utilization, with a minimum of 20 of these credits being focused in one specific discipline.

## Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

## Program Requirements

1. For admission, students must meet the following requirements:  submit an application and $30 fee; complete reading, writing, and math skills placement assessments; and submit official high school, GED, or HSED transcript.
2. The ITS degree is intended for currently employed individuals who have a specific career objective in mind that cannot be met by existing college degree programs.

3. The student is required to work under the direction of an occupational mentor at their current place of employment so that the student and the current employer are in complete agreement as to the curriculum identified, and place value on its contribution to the student and employer.  These requirements are in place to prevent students or colleges from designing a program around what they perceive to be a workforce need but which employers do not value, leaving the student with an unmarketable set of skills.
4. Critical to a successful experience and graduation from this program will be the input of an occupational mentor.  This real-world business person knows about the requirements and skills needed to be successful in the program of study.  The mentor, with the assistance of a Gateway advisor, helps the student decide the combination of technical and general studies courses necessary to meet the job requirements of their employer.

## Graduation Requirements

1. 61 Credit Hours
2. 40 credits Individualized Technical Studies courses (20 *must* be focused in one technical discipline)
3. 21 credits General Studies **required** from the following:
   - 6 credits Communications
   - 3 credits Social Science
   - 3 credits Behavioral Science
   - 3 credits Mathematics and/or Natural Science
   - 6 credits additional from General Studies area
4. 25% of the total program credits must be completed at Gateway

For a complete list of Graduation Requirements, check the Student Handbook.

## Technical Studies - Journeyworker (10-499-5)

In response to requests for academic recognition of registered apprenticeship training in the state of Wisconsin, the WTCS provides a TECHNICAL STUDIES – JOURNEYWORKER ASSOCIATE IN APPLIED SCIENCE DEGREE. This degree recognizes the goals, general principles and procedures of the WTCS Credit for Prior Learning Policy (WTCS #323, revised July 2005). The Technical Studies Journeyworker AAS degree is designed to support lifelong learning and accelerate the achievement of individual career goals. Transferability of the Technical Studies portion of the AAS degree to four year institutions will be based on the accepting institution's policies.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Program Requirements

1. For admission, students must meet the following requirements: submit an application and $30 fee; complete reading, writing, and math placement assessments; and submit official high school, GED, or HSED transcript.
2. Students must possess a Wisconsin Apprenticeship Completion Certificate issued by the Department of Workforce Development-Bureau of Apprenticeship Standards registered program which includes a minimum of 400 hours of prescribed apprentice related instruction in the Wisconsin Technical College System.
3. Complete all prescribed WTCS apprentice related technical instruction. Possession of the DWD-BAS Wisconsin Apprenticeship Completion Certificate AND successful completion of all prescribed coursework fulfills the Technical Studies requirement of the Technical Studies-Journeyworker Associate of Applied Science degree.

### Graduation Requirements

1. 60 Credit Hours
2. 39 credits Technical Studies courses (awarded as advanced standing)
3. 21 credits General Studies **required** from the following:
   - 6 credits Communications
   - 3 credits Social Science
   - 3 credits Behavioral Science
   - 3 credits Mathematics and/or Natural Science
   - 6 credits additional from General Studies area
4. 25% of the total program credits must be completed at Gateway

For a complete list of Graduation Requirements, check the Student Handbook.

## IT – Computer Support Specialist (10-154-3)
### Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 154-121 | | * | CSS Program Orientation | | | 1 | FA, SP |
| | 154-119 | | * | System Software Support | Coreq: 154-121; 801-136 | 4 | 3 | FA, SP |
| | 107-011 | | * | IT in Business | | 4 | 3 | FA, SP, SU |
| | 107-193 | 🎓 | * | IT Essentials | | 4 | 3 | FA, SP, SU |
| | 150-182 | | * | IoT: Connecting Devices | | | 3 | FA, SP |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,4 | 3 | FA, SP, SU |
| | 154-114 | 🎓 | * | Hardware & Software Support | Prereq: 154-119; 107-193 | | 3 | SP, SU |
| | 154-122 | 🎓 | * | Introduction to Help/Service Desk | Prereq: 107-193; Coreq: 804-135 OR 804-115 | | 3 | SP, SU |
| | 150-145 | | * | IT Scripting | | | 3 | SP, SU |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 804-135 | OR | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 804-115 | | | College Technical Math 1 | Prereq: 834-110 | | 5 | |
| | 154-112 | | * | Data Security & Recovery Support | Prereq: 154-114; 804-135 OR 804-115 | | 3 | FA |
| | 154-113 | 🎓 | * | IT Apps Server & Support | Prereq: 154-114 | 4 | 3 | FA |
| | 154-120 | | * | Advanced Help/Service Desk | Prereq: 154-122 | | 3 | FA |
| | 809-143 | OR | | Microeconomics | Prereq: 838-105 | 1,4 | 3 | FA, SP, SU |
| | 809-195 | | | Economics | | 1,4 | | |
| | 809-196 | OR | | Sociology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | 809-172 | | | Diversity Studies, Introduction to | Prereq: 838-105 | 1 | | |
| | 107-177 | | * | IT Project Management | Prereq: 154-113; 801-197 | 4 | 4 | SP |
| | 154-116 | | * | Emerging Technologies and Apps. | Prereq: 154-112 | | 2 | SP |
| | 154-118 | | * | CSS Skills Implementation & Career Prep | Prereq: 154-113; 801-197 | | 3 | SP |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **61** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## IT – Computer Support Specialist (10-154-3)

The *IT – Computer Support Specialist* program has been designed to prepare students for a career in Information Technology, providing end-user service and support in a variety of environments, including small business, not-for-profit and enterprise-sized corporations. Topics include the architecture, use, installation, and upgrading of hardware and software, operating systems, networking, and communications as well as data security and recovery. Students will evaluate user hardware and software needs, function as a liaison between their firm and outside contractors or vendors, research emerging technologies, and provide user training for both hardware and software.

### Program Learning Outcomes

Graduates will be able to:

1. Manage information technology hardware.
2. Manage software.
3. Support computer networks.
4. Provide end user support.
5. Solve information technology problems.
6. Demonstrate customer service skills as an IT professional.
7. Coordinate technology projects.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 61 credits with an average of 2.0 or above.
2. *Minimum of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Racine | FA, SP |
| Evenings | Elkhorn | FA, SP |

### Suggested Electives

| | |
|---|---|
| 801-196 Oral/Interpersonal Communication | 107-010 A+ 602 Review Class |
| 150-111 Network Admin. – Microsoft | 102-138 BIZ Internship |
| 107-009 A+ Essentials Review Class | 150-147 Network Adm. Microsoft1 |
| 154-109 IT-Computer Support Specialist Internship | 801-198 Speech |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. See your advisor if you have questions about course selection.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's IT-Computer Support Specialist program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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**IT – Computer Support Technician** (31-154-6)
Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 154-121 | | * | CSS Program Orientation | | | 1 | FA, SP |
| | 154-119 | | * | System Software Support | Coreq: 154-121; 801-136 | 2 | 3 | FA, SP |
| | 107-011 | | * | IT in Business | | 2 | 3 | FA, SP, SU |
| | 107-193 | 🎓 | * | IT Essentials | | 2 | 3 | FA, SP, SU |
| | 150-182 | | * | IoT: Connecting Devices | | | 3 | FA, SP |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,2 | 3 | FA, SP, SU |
| | 154-114 | 🎓 | * | Hardware & Software Support | Prereq: 154-119; 107-193 | | 3 | SP, SU |
| | 154-122 | 🎓 | * | Introduction to Help/Service Desk | Prereq: 107-193<br>Coreq: 804-135 OR 804-115 | | 3 | SP, SU |
| | 150-145 | | | IT Scripting | | | 3 | SP, SU |
| | 801-197 | | * | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 804-135 | OR | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 804-115 | | | College Technical Math 1 | Prereq: 834-110 | 1,2 | 5 | |
| | | | | **Minimum Program Total Credits Required** | | | **31** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-154-3 IT-Computer Support Specialist program can earn their associate degree by completing an additional 30 credits. Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books & Supplies | Resident Tuition & Fees | On-time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $2,115 | $4,979 | 60% | Computer User Support Specialists (15-1151) |

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## IT – Computer Support Technician (31-154-6)

The *IT-Computer Support Technician* program will provide the first step toward a career in IT which focuses on the support of end users. This program is designed to serve as a pathway into the IT-Computer Support Specialist (10-154-3) associate degree program. Students completing this program will have the option to continue into the parent program or become employed directly in the field. Graduates will have opportunities for employment reaching across all industries.

The IT-Computer Support Technician program is comprised of the first two semesters of the IT-Computer Support Specialist associate degree program. Specific course work includes: System Software Support, IT in Business, IT Essentials, Help/Service Desk, Networking/Web Concepts and Technical Reporting.

### Program Learning Outcomes
Graduates will be able to:
1. Support information technology hardware.
2. Install and support software.
3. Provide Level 1 end user support.
4. Solve common technology problems.
5. Demonstrate customer service skills as an IT professional.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 31 credits with an average of 2.0 or above.
2. *Minimum of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Racine | FA, SP |
| Evenings | Elkhorn | FA, SP |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's IT-Computer Support Technician program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

**IT – Cybersecurity Specialist** (10-151-2)
Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 150-182 | 🎓 | * | IoT: Connecting Devices | | | 3 | FA, SP |
| | 150-194 | 🎓 | * | Network Security | | 3 | 3 | FA, SP |
| | 150-114 | 🎓 | * | Network Concepts – CCNA 1 | Coreq: 804-135 | 3 | 3 | FA, SP |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,2,3 | 3 | FA, SP, SU |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 150-146 | 🎓 | * | Cybersecurity | Prereq: 150-194 | | 4 | SP, SU |
| | 150-109 | | * | Network Admin MS I 2016 | Prereq: 150-114; Coreq: 801-136 | | 3 | SP, SU |
| | 150-106 | | * | Intrusion Detection Systems | Prereq: 150-194 | | 3 | SP, SU |
| | 150-145 | | * | IT Scripting | | | 3 | SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,3 | 3 | FA, SP, SU |
| | 151-120 | | * | Cloud Data Security | Prereq: 150-146 | | 4 | FA |
| | 150-115 | | * | IoT: Securing Devices | Prereq: 150-182; 804-135 | | 3 | FA |
| | 151-130 | | * | Cisco CyberOps (SOC) | Prereq: 150-146 | | 3 | FA |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,2,3 | 3 | FA, SP, SU |
| | 151-131 | | * | Managing and Configuring Firewalls | Prereq: 150-106; 150-115 | | 3 | SP |
| | 150-143 | | * | Computer Security/Pen Test | Prereq: 150-106; 801-197 | | 4 | SP |
| | 151-132 | | * | SOC: Monitor/Secure the Infrastructure | Prereq: 151-130 | | 3 | SP |
| | 150-113 | | * | Network Administration - Linux | Prereq: 150-109 | 3 | 4 | SP |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **64** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## IT – Cyberecurity Specialist (10-151-2)

Cybersecurity specialists monitor an organization's computer network, maintain system security and upgrade security measures to prevent computer security incidents and cyberattacks. Learn to protect data confidentiality, integrity and availability while learning ways to implement security mechanisms. Emphasis is placed on vigilant security awareness, identifying network threats and deploying appropriate incident responses. Through hands-on lab work, learners will build practical experience with topics such as penetration testing, log analysis, the implementation of firewalls, wireless security and incident response, as well as defenses and countermeasures. Learners will gain an understanding of legal and ethical issues associated with information security. Learners will analyze a variety of network operating systems, firewalls, virtual private networks (VPN), packet filters and intrusion detection systems (IDS) to maximize information security in the network.

### Program Learning Outcomes

Graduates will be able to:
1.  Protect confidentiality, integrity and availability of data.
2.  Implement secure infrastructures (workstations, servers).
3.  Configure, maintain, troubleshoot and secure routers, switches, firewalls and Virtual Private Networks.
4.  Develop security reports.
5.  Perform and analyze a penetration test.
6.  Detect, analyze and defend against network and system penetration.
7. Recognize ethical responsibilities.
8. Solve problems individually and in a team environment.
9. Gather, interpret and analyze data in forensic security investigations.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 64 credits with an average of 2.0 or above.
2. *Minimum of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
| --- | --- | --- |
| Evenings | Racine & Elkhorn | FA, SP |

### Suggested Electives

150-183 VCP Virtualization          150-131 Network Specialist Internship
150-124 CCNA2

### Notes

1.  A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Transfer credits in Social Science may substitute for this course. See an advisor for details.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.



Foxconn preferred programs prepare students for potential career opportunities at Foxconn. Completion of a preferred program does not guarantee employment.

Information Technology–Cybersecurity Specialist

**IT – Data Analytics Specialist** (10-156-3)
Associate of Applied Science
**Effective 2019/2020**

Information
Technology

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 107-018 | | * | Fundamentals of IT | | | 3 | FA |
| | 152-081 | 🎓 | * | Programming in Python | Coreq: 804-135 | | 3 | FA |
| | 150-182 | 🎓 | * | IoT: Connecting Devices | | | 3 | FA, SP |
| | 150-194 | 🎓 | * | Network Security | | | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 156-100 | 🎓 | * | Data Analytics 1 | Prereq: 152-081; 804-135 Coreq: 804-189 | | 3 | SP |
| | 152-080 | 🎓 | * | Databases | Prereq: 152-081 | | 3 | SP |
| | 107-019 | | * | Intro to MIS | Coreq: 801-136 | | 3 | SP |
| | 804-189 | | | Statistics | Prereq: 804-135 | | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,3 | 3 | FA, SP, SU |
| | 156-101 | | * | Data Analytics 2 | Prereq: 156-100; 152-080 | | 3 | SU |
| | 156-120 | | * | Programming in R | Prereq: 156-100; 804-189 | | 3 | SU |
| | 150-115 | | * | IoT: Securing Devices | Prereq: 150-182; 804-135 | | 3 | FA, SU |
| | 809-195 / 809-143 | OR | | Economics / Microeconomics | Prereq: 838-105 | | 3 | FA, SP, SU |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | 1,2,3 | 3 | FA, SP, SU |
| | 156-125 | | * | Business Intelligence and Visualization | Prereq: 156-101; 156-120 | | 3 | FA |
| | 156-130 | | * | Data Analytics Capstone | Prereq: 156-101; 156-120; 801-197; Coreq: 156-125 | | 3 | FA |
| | 809-198 | | | Psychology, Intro to | Prereq: 838-105 | | 3 | FA, SP, SU |
| | 801-196 | | | Oral/Interpersonal Communication | Prereq: 838-105 | 3 | 3 | FA, SP, SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective.* | | | | | | 3 | FA, SP, SU |
| | | | | ***Minimum Program Total Credits Required*** | | | ***60*** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## IT – Data Analytics Specialist (10-156-3)

The *IT - Data Analytics Specialist* program trains students to identify, utilize, and interpret data from various sources, and to visualize that data to resolve business questions that impact data-driven decisions. Topics will include using current technologies to work with large data sets, securing data from various sources, database technologies, computer programming in Python and R, statistical analysis of data, creating visualizations and business intelligence, and completing real-world projects. Typical entry-level positions for this training opportunity include Operations Research Analyst, Computer Systems Analyst, Database Specialist, Data Analyst, and Junior Data Scientist.

### Program Learning Outcomes
Graduates will be able to:
1. Collect large data sets from multiple sources.
2. Organize data using software tools.
3. Create visualizations of data to drive decision making.
4. Communicate technical information to stakeholders.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 60 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Evenings | iMET Center | FA |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Gateway has many articulation agreements with four-year colleges and universities. If you are planning on transferring to a four-year institution please review this information online at gtc.edu/transfer. If an institution is not listed please contact them directly to see which courses transfer. You may also contact your advisor for more information.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.



Foxconn preferred programs prepare students for potential career opportunities at Foxconn. Completion of a preferred program does not guarantee employment.

# IT – Network Specialist (10-150-2)
### Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 107-011 | | * | IT in Business | | 3 | 3 | FA, SP |
| | 107-193 | ☞ | * | IT Essentials | | 3 | 3 | FA, SP |
| | 150-182 | | * | IoT: Connecting Devices | | | 3 | FA, SP |
| | 150-114 | ☞ | * | Network Concepts – CCNA 1 | Coreq: 804-135 | 3 | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 150-109 | ☞ | * | Network Admin MS I 2016 | Prereq: 150-114; Coreq: 801-136 | | 3 | SP, SU |
| | 150-124 | ☞ | * | Routing – CCNA 2 | Prereq: 150-114 | 3 | 3 | SP, SU |
| | 150-145 | | * | IT Scripting | | | 3 | SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,3 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,2,3 | 3 | FA, SP, SU |
| | 150-110 | | * | Network Admin MS 2 2016 | Prereq: 150-109; 804-135 | | 3 | FA |
| | 150-181 | | * | Cloud Technologies | Prereq: 150-124 | 3 | 4 | FA |
| | 150-194 | | * | Network Security | | 3 | 3 | FA |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,2,3 | 3 | FA, SP, SU |
| | 150-113 | | * | Network Administration - Linux | Prereq: 150-109 | 3 | 4 | SP |
| | 150-183 | | * | VCP - Virtualization | Prereq: 150-110 | 3 | 3 | SP |
| | 150-136 | | * | Server Technologies | Prereq: 107-193; 801-197 | 3 | 3 | SP |
| | 107-013 | | * | IT Job Skills | Prereq: 150-114 | 3 | 1 | SP |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | **Minimum Program Total Credits Required** | | | | | | **60** | |

☞ = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## IT – Network Specialist (10-150-2)

*IT-Network Specialist* is designed to prepare students for a professional career in the computer network field. The program takes the students from the beginning architectural design process through installation, configuration, administration, and tuning of microcomputer network environments. Additional topics incorporated into the program include cross-platform and enterprise network environments.

### Program Learning Outcomes

Graduates will be able to:
1. Implement computer networks.
2. Implement client systems.
3. Implement server operating systems.
4. Implement network security components.
5. Develop technical documentation.
6. Troubleshoot network systems.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 60 credits with an average of 2.0 or above.
2. *Minimum of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Racine & Elkhorn | FA, SP |
|  | Online | FA, SP |

### Suggested Electives

| | |
|---|---|
| 150-106 Intrusion Detection Systems | 150-180 What's in the Cloud? |
| 150-131 Network Internship | 809-195 Economics |
| 801-198 Speech | 150-135 Switching & Wans CCNA 3 & 4 |
| 801-196 Oral/Interpersonal Communications | 150-146 Cybersecurity |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Transfer credits in Social Science may substitute for this course. See an advisor for details.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's IT-Network Specialist program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

Information Technology–Network Specialist

# IT – Software Developer (10-152-1)
## Associate of Applied Science
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 107-011 | | * | IT in Business | | 4 | 3 | FA |
| | 152-126 | ☞ | * | Intro to Prog. & Database Concepts | | | 4 | FA |
| | 152-105 | ☞ | * | IBM Enterprise System Concepts | Coreq: 107-011 | 4 | 2 | FA |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,4 | 3 | FA, SP, SU |
| | 804-135 | | OR | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 804-115 | | | College Technical Math 1 | Prereq: 834-110 | 1,4 | 5 | FA, SP, SU |
| | 152-133 | | * | IBM Control Language | Prereq: 152-105 | | 2 | SP |
| | 152-141 | ☞ | * | Java Programming – IBM Systems | Prereq: 152-126; 152-105 | | 3 | SP |
| | 152-145 | ☞ | * | Internet Programming | Prereq: 152-126 | | 3 | SP |
| | 152-151 | | * | Microcomputer Prog. Advanced | Prereq: 152-126 | | 3 | SP |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,2,4 | 3 | FA, SP, SU |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 152-122 | | * | Computer Programming RPG/IV (ILE) | Prereq: 152-133; 152-126; 801-136; 804-135 or 804-115 | | 3 | FA |
| | 152-168 | | * | IBM and .NET Enterprise Programming | Prereq: 152-151 | | 3 | FA |
| | 152-093 | | * | IBM Advanced Java Programming | Prereq: 152-141; 152-145 | | 3 | FA |
| | 152-164 | | * | Mobile Device Programming | Prereq: 152-126 | | 3 | FA |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | 152-125 | | * | Computer Program, RPG/IV (ILE) Adv. | Prereq: 152-122 | | 3 | SP |
| | 152-131 | | * | Systems Design / Development | Prereq: 152-122 | | 3 | SP |
| | 152-167 | | * | Zend (PHP) Application Programming | Prereq: 152-141 | | 3 | SP |
| | 152-158 | | * | DB2/UDB Programming | Prereq: 152-126; 152-105 | | 3 | SP |
| | 809-195 | | OR | Economics | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 809-143 | | | Microeconomics | | 1,4 | | |
| | | | | | *Minimum Program Total Credits Required* | | 62 | |

☞ = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## IT – Software Developer (10-152-1)

*IT-Software Developer* covers the rapidly changing field of Information Technology with its multiple job opportunities; it may be completed in four semesters if taken full-time. The curriculum includes various types of programming, program analysis, and system software. Typical entry-level positions are entry-level programmer and computer operator.

### Program Learning Outcomes
Graduates will be able to:
1. Develop interactive programs utilizing structured programming techniques.
2. Code on multiple platforms.
3. Be prepared for entry in the computer field.
4. Assess computer hardware and software needs.
5. Communicate effectively with IT, end-users, teams, and management.
6. Develop and document IT (Information Technology) environments.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 62 credits with an average of 2.0 or above.
2. *Minimum of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Evenings | Racine | FA |

### Suggested Electives

| | |
|---|---|
| 152-124 Computer Programming C++ | 809-196 Sociology, Intro to |
| 102-138 Biz Internship | 809-172 Diversity Studies, Intro to |
| 801-198 Speech | 801-196 Oral/Interpersonal Communication |
| 809-112 Principles of Sustainability | |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See and advisor for details.
2. Transfer credits in Social Science may substitute for this course. See an advisor for details.
3. IT-Software Developer is a laptop program. Students will need a Windows-Based computer (with a hard drive) for use in the program. Please note MAC computers are not compatible with some of the required software.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's IT-Software Developer program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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# IT – Web Software Developer (10-152-4)
## Associate of Applied Science
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 152-081 | | * | Programming in Python | | | 3 | FA |
| | 152-082 | | * | Web Developer Orientation | Coreq: 152-182 | | 1 | FA |
| | 152-182 | 🎓 | * | Web Programming 1 | Coreq: 152-082 | | 3 | FA |
| | 152-184 | 🎓 | * | Java Programming 1 | Coreq: 804-135 OR 804-115 | | 3 | FA |
| | 804-135 | OR | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 804-115 | | | College Technical Math 1 | Prereq: 834-110 | 1,4 | 5 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | 152-097 | 🎓 | * | Javascript | Prereq: 152-182 | | 3 | SP |
| | 152-080 | 🎓 | * | Databases | Prereq: 152-184 OR 152-081 | | 3 | SP |
| | 152-174 | | * | Java Programming 2 | Prereq: 152-184 | | 3 | SP |
| | 152-188 | 🎓 | * | PHP Web Programming | Prereq: 152-182; 152-184 OR 152-081 | | 3 | SP |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,4 | 3 | FA, SP, SU |
| | 152-150 | | * | Web Programming 2 | Prereq: 152-182; 152-097 | | 3 | SP, SU |
| | 152-178 | 🎓 | * | Develop ASP.NET Web Apps | Prereq: 152-182; 152-097 OR 152-184 OR 152-081 | | 3 | SP |
| | 152-185 | | * | Advanced PHP | Prereq: 152-188; 804-135 OR 804-115 | | 3 | SU |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | 152-096 | | * | Developing ASP. NET Web Apps 2 | Prereq: 152-178 | | 3 | FA |
| | 152-083 | | * | Web Developer Project | Prereq: 152-150; 152-188; 801-197 | | 3 | FA |
| | 152-164 | | * | Mobile Device Programming | Prereq: 152-184 | | 3 | FA |
| | 809-143 | OR | | Microeconomics | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | 809-195 | | | Economics | | 1,3 | | |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **61** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## IT – Web Software Developer (10-152-4)

The *IT-Web Software Developer* program trains students in the development and maintenance of business and e-Commerce web sites using a variety of software, programming, and scripting languages. Topics will include web site project management, design, development, deployment, and basic maintenance of back-end databases and websites. Typical entry-level positions for this training opportunity include web developer, web programmer, and web designer.

### Program Learning Outcomes

Graduates will be able to:
1. Design software systems.
2. Integrate database technologies.
3. Develop software applications.
4. Develop technical documentation.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 61 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Evenings | Racine | FA |
|  | Online | FA |

### Suggested Electives

| | | |
|---|---|---|
| 152-140 Web Internship | ← OR → | 102-138 BIZ Internship |
| 102-118 International Biz Squad | | 145-119 Entrepreneurship |
| 801-198 Speech | | 809-172 Diversity Studies |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment.  See an advisor for details.
2. Gateway has many articulation agreements with four-year colleges and universities. If you are planning on transferring to a four-year institution please review this information online at gtc.edu/transfer. If an institution is not listed please contact them directly to see which courses transfer. You may also contact your advisor for more information.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's IT-Web Software Developer program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

Information Technology–Web Software Developer

**IT – Web Programmer** (31-152-6)
Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 152-081 | | * | Programming in Python | | | 3 | FA |
| | 152-182 | 🎓 | * | Web Programming 1 | Coreq: 152-082 | | 3 | FA |
| | 152-184 | 🎓 | * | Java Programming 1 | Coreq: 804-135 OR 804-115 | | 3 | FA |
| | 152-082 | | * | Web Developer Orientation | Coreq: 152-182 | | 1 | FA |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 152-097 | 🎓 | * | Javascript | Prereq: 152-182 | | 3 | SP |
| | 152-080 | 🎓 | * | Databases | Prereq: 152-081 OR 152-184 | | 3 | SP |
| | 152-150 | | * | Web Programming 2 | Prereq: 152-182; 097 | | 3 | SP, SU |
| | 152-174 | | * | Java Programming 2 | Prereq: 152-184 | | 3 | SP |
| | 152-188 | 🎓 | * | PHP Web Programming | Prereq: 152-182; 184 OR 081 | | 3 | SP |
| | | | | **Minimum Program Total Credits Required** | | | **28** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-152-4 IT-Web Software Developer program can earn their associate degree by completing an additional 33 credits.
Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books & Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $1,910 | $4,486 | Web Developer (15-1134) |

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## IT – Web Programmer (31-152-6)

The *IT – Web Programmer* diploma trains students in the development of business web sites using a variety of programming and scripting languages. Topics will include web site design and development and basic knowledge of SQL and back-end databases. Typical entry-level positions are junior web developer and junior web programmer.

### Program Learning Outcomes

Graduates will be able to:
1. Communicate effectively.
2. Utilize web design principles, standards, and best practices in designing effective and usable websites.
3. Identify and apply HTML/CSS tags and attributes for web page design.
4. Develop basic web applications using server-side scripting languages such as PHP and ASP.NET.
5. Use SQL commands to query a database and display data on a webpage.
6. Conduct testing and troubleshooting of web pages.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 28 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Evenings | Racine | FA |
|  | Online | FA |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.

Gateway Technical College's IT-Web Programmer program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.
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## Interior Design (10-304-1)
### Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 304-101 | | * | History of Furniture and Decorative Arts | | | 3 | FA |
| | 304-102 | | * | Principles of Interior Design | | | 3 | FA |
| | 304-122 | | * | Textiles | | | 3 | FA |
| | 304-128 | 🎓 | * | Basic Architectural Drawing | Coreq: 801-136 | | 3 | FA |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 2,4 | 3 | FA, SP, SU |
| | | | | | | | | |
| | 304-129 | | * | Visual Communication for Interior Design | Prereq: 304-102; 128 | | 3 | SP |
| | 304-133 | | * | Sustainable Materials and Finishes | | | 3 | SP |
| | 304-137 | | * | Advanced Architectural Drawing | Prereq: 304-102; 128 | | 3 | SP |
| | 304-156 | 🎓 | * | Residential Design Studio 1 | Prereq: 304-102; 128 Coreq: 804-135 | | 3 | SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 2 | 3 | FA, SP, SU |
| | 304-151 | | * | Center for Sustainable Living Practicum | Prereq: 304-133 | | 1 | SU |
| | 801-196 | | | Oral/Interpersonal Communication | | 2 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 2,3,4 | 3 | FA, SP, SU |
| | 304-116 | | * | Kitchen/Bathroom Plan | Prereq: 304-129; 137; 156; 801-136; 804-135 Coreq: 304-138 | | 3 | FA |
| | 304-132 | | * | Sales and Professional Practice of Interior Design | Prereq: 304-156 | | 3 | FA |
| | 304-138 | | * | Residential Design Studio II | Prereq: 304-156 | | 3 | FA |
| | 304-154 | | * | Interior Elements of Building Const. | Prereq: 304-156 | | 2 | FA |
| | 801-198 | | | Speech | | 2 | 3 | FA, SP, SU |
| | 304-107 | | * | Internship for Interior Designers | Prereq: 304-156; 132; 116; 154 Coreq: 304-130 | 1 | 2 | SP |
| | 304-119 | | * | Portfolio Presentation | Prereq: Instructor Consent | | 1 | SP |
| | 304-130 | | * | Commercial Design Studio | Prereq: 304-116; 132; 154; 156 Coreq: 304-107 | | 4 | SP |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 2,3,4 | 3 | FA, SP, SU |
| | 809-195 | | | Economics | Prereq: 838-105 | 2 | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **64** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Interior Design (10-304-1)

The *Interior Design* program emphasizes the design of functional, aesthetic, and technically proficient environments that meet the needs of people in spaces that are both safe and universally accessible. Green/sustainable practices are infused throughout the curriculum. Graduates are prepared with the necessary foundation skills in both manual and computer-aided graphics along with exposure to design studio processes and methodologies. Students are prepared to pursue careers in creative positions, as residential or commercial interior designers, kitchen and bath designers, designers in architectural firms, and more. Requires demonstration of the ability to create and execute a design portfolio, creative problem solving, and sustainability practices.

### Program Learning Outcomes
Graduates will be able to:
1. Integrate the codes and standards that impact the interior environment.
2. Model professional practices of the Interior Design industry.
3. Validate the design process.
4. Evaluate design decisions within the parameters of the built environment.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 64 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha | FA |

### Notes
1. Students must complete 72 hours of paid or unpaid internship work at an approved business. Transportation must be provided by the student.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Interior Design

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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# Leadership Development (10-196-1)
## Associate of Applied Science
### Effective 2019/2020

**Business Management & Administration**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 196-129 | | * | Management Orientation | | 3 | 1 | FA, SP, SU |
| | 196-190 | | * | Leadership Development | | 5 | 3 | FA, SP, SU |
| | 196-191 | | * | Supervision | | 5 | 3 | FA, SP, SU |
| | 196-137 | 🎓 | * | Certified Service Specialist | | 5 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,5 | 3 | FA, SP, SU |
| | 801-198 | OR | | Speech | | 1 | 3 | FA, SP, SU |
| | 801-196 | | | Oral/Interpersonal Communication | | | | FA, SP, SU |
| | 196-136 | | * | Safety in the Workplace | | 5 | 3 | FA, SP, SU |
| | 196-189 | | * | Team Building and Problem Solving | | | 3 | FA, SP, SU |
| | 196-192 | 🎓 | * | Managing for Quality | Prereq: 196-129; 137; Coreq: 804-135; 801-136 | 5 | 3 | FA, SP, SU |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,4,5 | 3 | FA, SP, SU |
| | 196-134 | | * | Legal Issues for Supervisors | Coreq: 196-193 | | 3 | FA, SP, SU |
| | 196-169 | | * | Diversity and Change Management | Coreq: 196-193 | | 3 | FA, SP, SU |
| | 196-193 | 🎓 | * | Human Resource Management | Prereq: 196-192, 801-136, 804-135 | | 3 | FA, SP, SU |
| | 101-112 | | | Accounting for Business | | | 3 | FA, SP, SU |
| | 809-166 | | | Ethics: Theory & Applications, Intro to | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 196-138 | | * | Management for Supervisors Capstone | Coreq: 196-168 & 196-188 | 5 | 2 | FA, SP, SU |
| | 196-168 | | * | Organizational Development | Prereq: 196-193 | | 3 | FA, SP, SU |
| | 196-188 | | * | Project Management | | | 3 | FA, SP, SU |
| | 809-172 | | | Diversity Studies, Introduction to | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | ***Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.*** | | | | | | 3 | |
| | | | | ***Minimum Program Total Credits Required*** | | | **60** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Leadership Development (10-196-1)

*Leadership Development* provides opportunities for those interested in acquiring or improving managerial/supervisory skills. The curriculum provides a blend of human relations and management development disciplines. This background enables the supervisor or manager to better understand how to attain organizational goals through the positive motivation of employees. Emphasis is placed on the "how-to-approach" which allows the instruction to be transferred from the classroom to the job.

### Program Learning Outcomes
Graduates will be able to:
1. Utilize quality strategies and tactics.
2. Apply effective leadership skills.
3. Apply Human Resource policies and procedures.
4. Perform supervisory management functions to achieve organizational objectives.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 60 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
|  | Online | FA, SP, SU |

### Suggested Electives

| | |
|---|---|
| 104-101 Marketing Principles | 102-138 Biz Internship |
| 196-164 Personal Skills for Supervisors | |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See advisor for details.
2. Enrollment for this program is intended for people currently employed in a position closely related to Supervisory Management or who wish to acquire skills to become a supervisor.
3. It is recommended that students enroll in 196-129 Management Orientation as the first course in the program.
4. Transfer credits in Social Science may substitute for this course. See an advisor for details.
5. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's Leadership Development program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

**Leadership Development**

# Marketing (10-104-3)
## Associate of Applied Science
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 104-101 | 🎓 | * | Marketing Principles | | | 3 | FA, SP, SU |
| | 104-104 | | * | Selling Principles | | | 3 | FA, SP, SU |
| | 103-143 | | | Computers for Professionals | Prereq:103-142 OR 860-720 | 1,3 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,3 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,2,3 | 3 | FA, SP, SU |
| | 104-105 | | * | Promotion Principles | | | 3 | FA, SP, SU |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 102-137 102-160 | | *OR | Introduction to Business Business Law | | 3 | 3 | FA, SP |
| | 104-126 | | * | Business Marketing I | Prereq: 104-101 | | 3 | FA, SP |
| | 104-194 | | * | International Marketing | Coreq: 801-136; 804-135 | | 3 | FA, SP |
| | 104-109 | | * | Marketing/Sports & Event Intro | | | 3 | FA, SP |
| | 104-173 | | * | Marketing Research | Prereq: 104-194; 801-136; 804-135 | | 3 | FA, SP |
| | 104-116 | | * | Electronic Marketing/Social Media | Prereq: 104-101 | | 3 | FA, SP |
| | 801-196 801-198 | | OR | Oral/Interpersonal Communication Speech | | 1 | 3 | FA, SP, SU FA, SP, SU |
| | 809-172 | | * | Diversity Studies, Introduction to | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 101-112 101-114 | | OR | Accounting for Business Accounting Principles | | 3 | 3 4 | FA, SP |
| | 104-115 | | * | Marketing Capstone/Internship | Prereq: Instructor Consent; 104-173; 801-136; 804-135 | | 3 | FA, SP |
| | 104-172 | | * | Marketing Management | Prereq: 104-173; 801-136; 804-135 | | 3 | FA, SP |
| | 809-143 | | | Microeconomics | Prereq: 838-105 | 1,3 | 3 | FA, SP, SU |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **60** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Marketing (10-104-3)

*Marketing* is a two-year associate degree program if taken full-time. Project-based learning applications prepare graduates for work in marketing and sales positions with opportunities to advance throughout their career. Students will develop an understanding of marketing strategies for consumers and business customers. Marketing skills acquired are in the emerging areas of promotion, sales, digital, social media, data analysis, and business strategies along with the creation of a complete written marketing plan.

### Program Learning Outcomes

Graduates will be able to:
1. Communicate effectively in a professional environment.
2. Develop strategies to anticipate and satisfy market needs.
3. Promote products, services, images, and/or ideas to achieve a desired outcome.
4. Evaluate information through the marketing research process.
5. Prepare selling strategies.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 60 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha, Racine, Elkhorn | FA |
| Evenings | Kenosha & Racine | FA |
|  | Online | FA, SP |

### Suggested Electives

| | |
|---|---|
| 102-138 Biz Internship | 102-160 Business Law |
| 801-197 Technical Reporting | 104-127 Retailing |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Transfer credits in Social Science may substitute for this course. See an Advisory for details.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's Marketing program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

Marketing

# Mechanical Design Technology (10-606-1)
Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 606-149 | * | Introduction to MET | Coreq: 606-128 | 5 | 2 | FA, SP |
| | 606-103 | * | Material Properties | | | 2 | FA |
| | 606-128 | * | CAD – Solidworks | | 5 | 2 | FA, SP |
| | 606-141 | * | AutoCAD – Mech Design Tech | | 5 | 3 | FA, SP |
| | 801-136 | | English Composition 1 | Prereq: 831-103 | 1,5 | 3 | FA, SP, SU |
| | 804-115 | 🎓 | College Technical Math 1 | Prereq: 834-110 | 1,5 | 5 | FA, SP, SU |
| | 606-129 | * | CAD Solids / Advanced | Prereq: 606-128 | 5 | 2 | FA, SP |
| | 606-142 | * | Creo/Pro Engineer, Introduction to | | 5 | 2 | SP |
| | 606-151 | 🎓 * | Statics | Prereq: 804-115 | | 3 | SP |
| | 606-152 | 🎓 * | Engineering Graphics w/ CAD1 | Prereq: 606-128; 606-149 | | 2 | FA, SP |
| | 606-159 | * | Manufacturing Processes | Prereq: 606-103 OR 606-136 Coreq: 801-136 | | 2 | SP |
| | 806-154 | | General Physics 1 | Prereq: 804-115 | 5 | 4 | FA, SP, SU |
| | 606-118 | * | Mechanisms | Prereq: 606-151; 606-152 | | 2 | FA |
| | 606-119 | * | Motor Controls | | | 3 | FA |
| | 606-131 | * | Strength of Materials | Prereq: 606-151; 806-154 | | 3 | FA |
| | 606-137 | * | Manufacturing Process Appl | Prereq: 606-159 | | 2 | FA |
| | 606-153 | * | Engineering Graphics w/ CAD 2 | Prereq: 606-152 | | 2 | FA |
| | 801-198 | | Speech | | 1 | 3 | FA, SP, SU |
| | 606-116 | * | Machine Design / Elements of | Prereq: 606-151 | | 3 | SP |
| | 606-138 | * | Design Problems | Prereq: Instructor Consent; 801-136 | | 2 | SP |
| | 606-154 | * | Engineering Graphics w/ CAD 3 | Prereq: 606-153 | | 2 | FA, SP |
| | 606-160 | * | Fluid Power and Design | | | 3 | SP |
| | 809-195 | | Economics | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 809-198 | | Psychology, Introduction to | Prereq: 838-105 | 1,4,5 | 3 | FA, SP, SU |
| | | | **Minimum Program Total Credits Required** | | | **63** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Mechanical Design Technology (10-106-1)

In *Mechanical Design Technology,* comprehensive instruction is given and practical experience gained in mechanical design, drafting, and computer aided design (CAD). Extensive experience is gained with dimensioning practices, allowances, sections, drafting standards, auxiliary views, exploded views, fabrication drawings detail and assembly drawings, gears and cams, structural shapes, and intersections. Other topics covered through classroom study include practical geometry, basic fabrication methods, engineering geometry, linear velocity, engineering materials and properties, kinematics of machinery, and manufacturing processes.

### Program Learning Outcomes
Graduates will be able to:
1. Prepare detail and assembly drawings for documentation of mechanical components and products.
2. Create CAD geometry, parts, and assemblies.
3. Design mechanical components and products.
4. Analyze mechanical engineering problems.
5. Select purchase parts.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 63 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | iMET | FA |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days before the program start to obtain prescription and glasses.
3. A drafting kit is required for this program; the cost is approximately $20.
4. Transfer credits in Social Science may substitute for this course. See an advisor for details.
5. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Mechanical Design Technology

# Medical Assistant (31-509-1)
Technical Diploma
**Effective 2019/2020**

ealth Science

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 509-301 | | * | Medical Assistant Admin Procedures | Coreq: 501-107 | | 2 | FA, SP, SU |
| | 509-303 | | * | Medical Assistant Lab Procedures 1 | Coreq: 509-304 | | 2 | FA, SP, SU |
| | 509-304 | | * | Medical Assistant Clinical Procedures 1 | Prereq: Advisor Consent | | 4 | FA, SP, SU |
| | 509-302 | 🎓 | * | Human Body in Health and Disease | Coreq: 501-101 | | 3 | FA, SP, SU |
| | 501-107 | | * | Digital Literacy for Healthcare | | | 2 | FA, SP, SU |
| | 501-101 | 🎓 | * § | Medical Terminology | Prereq: 838-105 | 4,9, See Below | 3 | FA, SP, SU |
| | 509-305 | | * | Medical Assistant Lab Procedures 2 | Prereq: 509-303 | | 2 | FA, SP, SU |
| | 509-306 | | * | Medical Assistant Clinical Procedures 2 | Prereq: 509-303; 304 Coreq: 509-308 | | 3 | FA, SP, SU |
| | 509-307 | | * | Medical Office Insurance & Finance | Prereq: 501-107; 509-302 | | 2 | FA, SP, SU |
| | 509-308 | | * | Pharm for Allied Health | Prereq: 509-302 | | 2 | FA, SP, SU |
| | 509-309 | | * | Medical Law, Ethics and Professionalism | Coreq: 801-301 OR 801-136 | | 2 | FA, SP, SU |
| | 801-136 | OR | | English Composition 1 | Prereq: 831-103 | 4,9 | 3 | FA, SP, SU |
| | 801-301 | | | Writing Principles | Prereq: 851-756 | 4 | 1 | |
| | *A four week practicum follows the completion of the second semester.* | | | | | | | |
| | 509-310 | | * | Medical Assistant Practicum | Prereq: Instructor Consent | 6, 7 | 3 | FA, SP, SU |
| | | | | ***Minimum Program Total Credits Required*** | | | **31** | |

§ Cannot be completed more than 26 months prior to entry in 509-308, 509-303, and 509-304.

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | Median Loan Debt[1] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $2,115 | $5,450 | $2,625 | Medical Assistants (31-9092) |

1 Median Loan Debt: Based on eligibility, students can receive loans to help pay for the total cost of attending college. The cost is comprised of tuition and fees, books and supplies, transportation costs, room and board, and miscellaneous personal expenses. Therefore, medial loan debt may be more than the listed tuition, fees, books, and supplies cost.

## Medical Assistant (31-509-1)

The *Medical Assistant* program's goal is to prepare competent entry-level medical assistants in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains. Medical assistants are multi-skilled health individuals who work in ambulatory settings such as clinics, group practices, and physicians' offices. The medical assistant is responsible for medical and surgical asepsis, taking vital signs, assisting the physician with examinations and surgery, administering ECGs and administering medications. The business/ administrative duties include patient reception, appointment making, record keeping, filing, bookkeeping, processing insurance claims, typing medical correspondence, transcription and microcomputer applications. Laboratory functions include specimen collection, performance of waived laboratory tests and work. Graduates find jobs as medical assistants, secretaries, medical laboratory assistants, phlebotomists, receptionists, medical insurance clerks and electrocardiogram technicians.

### Program Learning Outcomes
Graduates will be able to:
1. Perform medical office administrative functions
2. Provide patient care in accordance with regulations, policies, laws, and patient rights.
3. Perform medical laboratory procedures
4. Demonstrate professionalism in a healthcare setting
5. Demonstrate safety and emergency practices in a healthcare setting

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.
5. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements
1. Minimum 31 credits with an average of 2.0 or above.
2. *Minimum of 2.0 ("C") or above for each of these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha | SP |
| Days | Elkhorn | FA |
| Days | Racine | SU |
| Evenings | Racine | FA |

### Notes
1. A liability fee is assessed for core courses.
2. There is a daily long-term exposure to latex products in this program. Those with latex sensitivity may find exp. to latex impossible to avoid in this environment.
3. When there has been a 1-year or more interruption between core (*) courses and Medical Assistant Practicum (509-310), the student must enroll in and successfully complete, Update for Health Professionals (509-433) prior to the practicum.
4. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
5. Persons convicted of a felony are not eligible to sit for the certification exam unless the certifying board grants a waiver based on the mitigating circumstances listed in the Disciplinary Standards of the American Association of Medical Assistants.
6. Course 509-310 Medical Assistant Practicum is a 160 hour unpaid practicum experience that must be completed in order for students to successfully complete the MA program.  In order to enroll in the practicum course, students must complete all other coursework, submit a completed health physical form and submit evidence of completion of courses 531-410B CPR-Healthcare Provider and 531-419A Medic First Aid.
7. Students should be advised that they will be assigned a clinical site affiliated with the campus where they have completed 509-305 and 509-306.  Reassignment of clinical sites is subject to instructor approval.
8. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
9. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Programs (CAAHEP) (www.caahep.org) upon recommendation of the Medical Assisting Education Review Board (MAERB).
Commission on Accreditation of Allied Health Education Programs
25400 US Highway 19 North, Suite 158
Clearwater, FL  33763
(727) 210-2350
https://www.caahep.org
Additional information on the Medical Assisting profession can be accessed at: www.aama-ntl.org

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult Web Advisor for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.
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**Motorcycle, Marine and Outdoor Power Products** (31-461-2)

Technical Diploma

**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 461-307 | 🎓 | * | Fundamental Shop Skills | | | 2 | FA |
| | 461-308 | 🎓 | * | Two Cycle Engines | Coreq: 461-307 | | 2 | FA |
| | 461-300 | 🎓 | * | Four Cycle Engines | Coreq: 461-307 | | 3 | FA |
| | 412-119 | | * | Mobile Electrical Systems | | | 3 | FA |
| | 804-370 | | | Mathematics I, Applied | Prereq: 854-760 | 1 | 2 | FA, SP |
| | 442-102 | | * | Introduction to Welding | | | 2 | FA |
| | 461-306 | | * | Recreational Equipment Maintenance | Coreq: 461-307 | | 2 | FA |
| | 461-304 | | * | Outboard Engines | Prereq: Dept. Consent; 804-370; Coreq: 801-301; 801-302 | | 3 | SP |
| | 461-301 | | * | Hydraulic Systems | Prereq: 461-307 | | 3 | SP |
| | 461-302 | | * | Inboard Engines | Prereq: 461-300; 461-307 | | 2 | SP |
| | 461-305 | | * | Power Transmission Systems | Prereq: 461-307 | | 3 | SP |
| | 461-303 | | * | Light Motorcycle Service | Prereq: Dept. Consent; 804-370 | | 3 | SP |
| | 801-302 | | | Speaking Principles | | | 1 | SP |
| | 801-301 | | | Writing Principles | Prereq: 851-756 | 1 | 1 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **32** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $2,183 | $5,523 | Outdoor Power Equipment and Other Small Engine Mechanics (49-3053) |

## Motorcycle, Marine and Outdoor Power Products (31-461-2)

The Motorcycle, Marine and Outdoor Power Products program prepares students for a career in the motorcycle, outdoor powersports and marine engine service field. Learners will troubleshoot, service and repair related equipment including motorcycles, recreational power sport vehicles, snowmobiles, and marine engines. Extensive training in the specialty areas of two and four cycle engines, ignition and electrical systems, fuel and lubrication systems, induction and cooling systems, hydraulics, transmissions, and drivetrains will also be provided.

### Program Learning Outcomes

Graduates will be able to:
1. Repair brake systems.
2. Repair 2-stroke engine.
3. Repair 4-stroke engine.
4. Repair drive lines.
5. Repair electrical systems.
6. Repair suspensions.
7. Repair fuel systems.
8. Repair hydraulic systems.
9. Develop a customer work order.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 32 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Racine | FA |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.

**Nursing – Associate Degree** (10-543-1)
Associate of Applied Science
**Effective 2019/2020**

*Health Science*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

**Nursing**

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 806-177 | | §* | General Anatomy and Physiology | | 2,10 | 4 | FA, SP, SU |
| | 543-101 | 🎓 | §* | Nursing Fundamentals | Prereq: 806-177 & Advisor Consent Coreq: 801-136 | 1,5,10 | 2 | FA, SP, SU |
| | 543-102 | 🎓 | §* | Nursing Skills | Prereq: 806-177 & Advisor Consent | 1,5,10 | 3 | FA, SP, SU |
| | 543-103 | | §* | Nursing Pharmacology | Prereq: 806-177 & Advisor Consent | 1,5,10 | 2 | FA, SP, SU |
| | 543-104 | | §* | Nsg: Intro Clinical Practice | Prereq: 806-177 & Advisor Consent Coreq: 543-101; 102; 103 | 1,5,10 | 2 | FA, SP, SU |
| | 801-136 | | § | English Composition 1 | Prereq: 831-103 | 2,10 | 3 | FA, SP, SU |
| | 809-188 | | § | Psychology, Developmental | Prereq: 838-105 | 2 | 3 | FA, SP, SU |
| | 543-105 | 🎓 | §* | Nursing Health Alterations | Prereq: 543-101; 102; 103; 104; 801-136 | 10 | 3 | FA, SP, SU |
| | 543-106 | | §* | Nursing Health Promotion | Prereq: 543-101; 102; 103; 104; 809-188; 801-136 | 10 | 3 | FA, SP, SU |
| | 543-107 | | §* | Nsg: Clin Care Across Lifespan | Prereq: 543-101; 102; 103; 104 Coreq: 543-106 | 10 | 2 | FA, SP, SU |
| | 543-108 | | §* | Nsg: Intro Clinical Care Mgt. | Prereq: 543-101; 102; 103; 104 Coreq: 543-105 | 10 | 2 | FA, SP, SU |
| | 801-198 | | § | Speech | | 2 | 3 | FA, SP, SU |
| | 806-179 | | §* | Anatomy & Physiology, Adv. | Prereq: 806-177 | 10 | 4 | FA, SP, SU |
| | 543-109 | | * | Nursing Complx Health Alter I | Prereq: 543-105; 106; 107; 108; 806-179 Coreq: 806-197 | 9 | 3 | FA, SP, SU |
| | 543-110 | | * | Nursing Mental Health Comm | Prereq: 543-105; 106; 107; 108; 806-179 Coreq: 809-198 | 9 | 2 | FA, SP, SU |
| | 543-111 | | * | Nursing Intrmdt Clinical | Prereq: 543-105; 106; 107; 108 Coreq: 543-109; 110; 112 | 9 | 3 | FA, SP, SU |
| | 543-112 | | * | Nursing Advanced Skills | Prereq: 543-105; 106; 107; 108; 806-179 | 9 | 1 | FA, SP, SU |
| | 806-197 | | §* | Microbiology | Prereq: 806-177 OR 806-105 | 2,8 | 4 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 2,7,10 | 3 | FA, SP, SU |
| | 543-113 | | * | Nursing Cmplx Health Alter II | Prereq: 543-109; 110; 111; 112; 806-197 | | 3 | FA, SP, SU |
| | 543-114 | | * | Nursing Management Concepts | Prereq: 543-109; 110; 111 | | 2 | FA, SP, SU |
| | 543-115 | | * | Nursing Advanced Clinical | Prereq: 543-109; 110; 111 Coreq: 543-113; 114 | | 3 | FA, SP, SU |
| | 543-116 | | * | Nursing Clinical Trans. | Prereq: 543-109; 110; 111 Coreq: 543-113; 114; 115 | | 2 | FA, SP, SU |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 2,7,10 | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **65** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Nursing – Associate Degree (10-543-1)

*Nursing-Associate Degree* program is the dynamic interpersonal goal-directed process that seeks to promote optimal health within the context of individuals, family, community and society. The concept of caring, which is central to nursing, is communicated through both attitude and action. Nursing uses the nursing process, a problem solving approach to provide holistic care to individuals, families, and groups within the health care system. Nurses assess health and make clinical decisions to provide safe and effective nursing care according to standards of practice within legal, ethical and regulatory frameworks. Nursing practice is based on its own body of knowledge. Through collaboration with other health care professionals, nursing is responsive to the needs of the community across the health-illness continuum. The program may be completed in two academic years of full-time study. Individuals who are Licensed Practical Nurses should contact Gateway for information regarding advanced standing opportunities.

### Program Learning Outcomes
Graduates will be able to:
1. Implement one's role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving professional identity as a nurse committed to evidence-based practice, caring, advocacy, and quality care.
2. Demonstrate appropriate written, verbal, and nonverbal communication in a variety of clinical contexts.
3. Integrate social mathematical, and physical sciences, pharmacology, and pathophysiology in clinical decision making.
4. Provide patient centered care by utilizing the nursing process across diverse populations and health care settings.
5. Minimize risk of harm to patients, members of the healthcare team and self through safe individual performance in participation in system effectiveness.
6. Lead the multidisciplinary health care team to provide effective patient care throughout the lifespan.
7. Use information and technology to communicate, manage data, mitigate error, and support decision-making.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated on all available evidence provided to the college.

5. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements
1. Minimum 65 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
3. § Must be completed to be eligible to take the NCLEX-PN exam.
Gateway credits may transfer to colleges and universities offering adv. nurse ed. programs.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha | FA, SP, SU |
| Evenings | Kenosha | FA, SP |
| Days | Burlington Center | FA, SP |

### Notes
1. Students are selected based on completion of academic eligibility requirements and district residency. See https://www.gtc.edu/student-services/admissions/what-petitioning for additional information. Students must meet current petition requirements at the time they are eligible to enroll in 543 courses.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
3. A liability insurance fee per semester is required.
4. A physical examination and immunization are required prior to admission to the first clinical course. Clinical sites may require proof of health insurance.
5. Beginning in January 2015, students must have received a "B-" or better in 806-177 General Anatomy & Physiology before they can enroll in this course.
6. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
7. Transfer credits in Social Science may substitute for this course. See advisor for details.
8. It is preferred that students in this program complete 806-177 as the prereq for this course.
9. Beginning in May 2016, students must have received a "B-" or better in 806-179 Anatomy and Physiology, Advanced before they can enroll in this course.
10. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

The Nursing program is fully accredited by the Accreditation Commission for Education in Nursing; 3343 Peachtree Rd NE Suite #850, Atlanta, GA 30326. For more information call (404) 975-5000.

**Eligibility for Licensure Exam:** Student must be a graduate of a state-approved school, be a U.S. citizen, or submit proof of intention to become a citizen or a permanent resident alien.

**Nursing**

**Nursing Assistant** (30-543-1)
Technical Diploma
**Effective 2019/2020**

*ealth Science*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|
| | 543-300 | Nursing Assistant | Prereq: 838-105 & Program Admission | | 3 | FA, SP, SU |
| | | | ***Minimum Program Total Credits Required*** | | ***3*** | |

## Nursing Assistant (30-543-1)

*Nursing Assistant*, offered numerous times throughout the district, prepares students to perform basic nursing skills in caring for clients in various health care settings. A certificate is awarded upon successful completion of this course and graduates are eligible to competency test for placement on the Wisconsin Nursing Assistant / Home Health Aide Registry.

### Program Learning Outcomes
Graduates will be able to:
1. Communicate and interact effectively with clients, family, and co-workers.
2. Maintain and protect client rights.
3. Report information and record observations.
4. Demonstrate the ethical and legal responsibilities of the NA/HHA.
5. Carry out the basic nursing skills required of the NA/HHA.
6. Provide for resident personal care and hygiene.
7. Assist with client rehabilitation and restorative care, promoting independence.
8. Assist clients with long-term, disabling conditions including dementia.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading placement assessment (min. score 237).
3. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.
4. Students must complete a functional ability form verifying they are able to perform physical requirements of the program and must complete all health requirements.

### Graduation Requirements
1. Minimum 3 credits with an average of 2.0 or above.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha, Racine, Elkhorn | FA, SP, SU |
| Evenings | Kenosha, Racine, Elkhorn | FA, SP, SU |

### Notes
1. A liability fee is assessed on a per credit basis.
2. Clinical sites may require drug testing.
3. Successful completion of 543-300 will result in the student's eligibility to take the Wisconsin Competency Testing for certification as a Nursing Assistant.
4. Certificates will be issued upon successful completion of 543-300.
5. 543-300 is a 120 hour course – classroom / lab / clinical combined.
6. District-wide Nursing Assistant clinical uniform required: Navy Blue uniform top and blue uniform bottom.
7. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.

The State of Wisconsin Regulatory Agency requires mandatory attendance of 120 hours for this course. There is an allowance of up to 8 hours absence/tardiness with mandatory documented homework assignments. If there is a college related cancellation of course time, mandatory make-up day(s) will be assigned to the course to ensure compliance with state regulations.

**Nursing Assistant**

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.
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**Office Assistant** (31-106-1)
Technical Diploma
**Effective 2019/2020**

Business Management & Administration

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 106-021 | | * | Business Office Fundamentals | | | 3 | FA, SU |
| | 106-028 | | * | Office Technologies Essentials | | | 3 | FA, SU |
| | 106-137 | 🎓 | * | Keyboarding Applications | | 2 | 3 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,2 | 3 | FA, SP, SU |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 106-024 | 🎓 | * | Professionalism in Business | | | 3 | SP, SU |
| | 106-025 | | * | Spreadsheets for Business | Prereq: 106-137 | | 3 | SP, SU |
| | 106-026 | | * | Business Publications | Prereq: 106-137 | | 3 | SP, SU |
| | 106-030 | | * | Word Processing for Business | Prereq: 106-137 | | 3 | SP, SU |
| | 106-019 | | * | Admin. Services Internship I | Prereq: 106-137 & Instructor Consent Coreq: 106-024; 804-135; 801-136 | | 1 | FA, SP, SU |
| | 801-196 | | | Oral/Interpersonal Communication | | 1 | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **31** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-106-6 Administrative Professional program can earn their associate degree by completing an additional 31 credits. Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | On-Time Graduation Rate[2] | Median Loan Debt[1] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|---|
| $2,115 | $4,773 | 30% | $8,059.50 | Office Clerks (43-9061) |

[1] **Median Loan Debt:** Based on eligibility, students can receive loans to help pay for the total cost of attending college. The cost is comprised of tuition and fees, books and supplies, transportation costs, room and board, and miscellaneous personal expenses. Therefore, medial loan debt may be more than the listed tuition, fees, books, and supplies cost.

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Office Assistant (31-106-1)

*Office Assistant* prepares individuals to fulfill the role of an office generalist. Participants will develop skills in keyboarding, filing, business mathematics, records control, and customer service. Office Assistant graduates will develop the computer skills necessary to succeed in the office environment. Participants will be given the opportunity to visit and observe area office assistants in action.

### Program Learning Outcomes
Graduates will be able to:
1. Demonstrate effective workplace communications.
2. Apply technology skills to business and administrative tasks.
3. Perform routine administrative procedures.
4. Maintain internal and external relationships.
5. Model professionalism in the workplace.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 31 credits with an average of 2.0 or above.
2. Minimum grade of *2.0 ("C") or above is required for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha, Racine | FA |
|  | Online | FA |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

**Office Assistant**

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.
**EQUAL OPPORTUNITY EMPLOYER AND EDUCATOR/EMPLEADOR Y EDUCADOR QUE OFRECE IGUALDAD DE OPORTUNIDADES**

**Paramedic Technician** (10-531-1)
Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 531-911 | | * | EMS Fundamental | Prereq: 838-105 | 1,2 | 2 | SU |
| | 531-912 | 🎓 | * | Paramedic Medical Principles | Coreq: 531-911 | | 4 | FA |
| | 531-913 | 🎓 | * | Adv. Patient Asses. Principles | Coreq: 531-911 | | 3 | FA |
| | 531-914 | | * | Adv. Pre-Hospital Pharmacology | Coreq: 531-911 | | 3 | FA |
| | 531-915 | | * | Paramedic Respiratory Mgt. | Coreq: 531-911 | | 2 | FA |
| | 531-925 | | * | Paramedic HPS Lab | Coreq: 531-912 | | 4 | FA |
| | 531-926 | | * | Paramedic Hospital Field | Coreq: 531-912 | 3,4 | 1 | FA |
| | 531-955 | | * | Paramedic Cardiology 1 | Coreq: 531-915 | | 2 | FA |
| | 531-918 | | * | Adv. Emergency Resuscitation | Coreq: 531-955 | | 1 | SP |
| | 531-919 | | * | Paramedic Medical Emergencies | Coreq: 531-955 | | 4 | SP |
| | 531-920 | 🎓 | * | Paramedic Trauma | Coreq: 531-955 | | 3 | SP |
| | 531-921 | | * | Special Patient Populations | Coreq: 531-955 | | 3 | SP |
| | 531-922 | | * | EMS Operations | Coreq: 531-955 | | 1 | SP |
| | 531-923 | | * | Paramedic Capstone | Coreq: 531-955 | | 1 | SP |
| | 531-927 | | * | Paramedic Hospital Field II | Coreq: 531-955 | 3,4 | 2 | SP |
| | 531-956 | | * | Paramedic Cardiology 2 | Prereq: 531-955 | | 2 | SP |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,7 | 3 | FA, SP, SU |
| | 801-196 | OR | | Oral/Interpersonal Communication | | 1 | 3 | FA, SP, SU |
| | 801-198 | | | Speech | | | | FA, SP, SU |
| | 806-177 | | | General Anatomy and Physiology | | 7 | 4 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,5,7 | 3 | FA, SP, SU |
| | 806-179 | | | Anatomy & Physiology, Advanced | Prereq: 806-177 | 7 | 4 | FA, SP, SU |
| | 809-166 | OR | | Ethics: Theory & Applications, Intro to | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 809-172 | | | Diversity Studies, Introduction to | | | | |
| | 809-188 | OR | | Psychology, Developmental | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 809-159 | | | Psychology, Abnormal | Prereq: 809-198 | | | |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **64** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Paramedic Technician (10-531-1)

*Paramedic Technician* requires students to be licensed in Wisconsin at the Emergency Medical Technician (EMT), Advanced EMT (EMT Intermediate Technician), or EMT Intermediate level and be current in Healthcare Provider CPR. Paramedics can perform more acute care and administer advanced drug therapies. They can also perform surgical procedures to open airways and provide resuscitative drugs. Paramedics have an increased knowledge of lifesaving skills as well as advanced emergency assessment expertise. This program is offered on a part time basis: either two evenings a week and Saturdays or an alternating day class 2-3 days a week to accommodate the typical 24 hour on/48 hour off schedule worked by many FF/EMS agencies. At the end of the program, students will take a final Gateway Technical College written and practical exam, and after successful completion students will be eligible to test and credential through the National Registry of Emergency Medical Technicians®. The program includes approximately 650 hours of classroom lecture and skills lab, and approximately 500 hours of supervised hospital clinical and field time. Satisfactory completion of clinical/field time is competency based so actual number of hours may vary from student to student. Graduates of this program can expect to find employment with private ambulance companies, fire departments, or hospital emergency rooms. Students finishing the first two semesters of the program (the 531 courses) are eligible to receive the Paramedic Technical Diploma (31-531-1). All courses in the EMT-Paramedic diploma program can be applied to the Paramedic Technician associate degree.

**Program Goal:** To prepare competent entry-level Emergency Medical Technician-Paramedics in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains, with or without exit points at the Emergency Medical Technician-Intermediate and/or Emergency Medical Technician-Basic, and/or First Responder levels.

### Program Learning Outcomes
Graduates will be able to:
1. Prepare for incident response and EMS operations.
2. Integrate pathophysiological principles and assessment findings to provide appropriate patient care.
3. Demonstrate paramedic skills associated with established standards and procedures for a variety of patient encounters.
4. Communicate effectively with others.
5. Demonstrate professional behavior.
6. Meet state and national competencies listed for paramedic credentialing.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must have current CPR certification.
4. Students must have current Wisconsin EMS licensure.

5. Students must submit official high school, GED, or HSED transcript.
6. Students must submit complete a functional ability form verifying they have read and understand the functional abilities for the program.
7. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.

### Graduation Requirements
1. Minimum 64 credits with an average of 2.0 or above.
2. *A minimum grade of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | HERO Center | SU |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior enrollment. See an advisor for details.
2. Prior to enrolling in paramedic level courses, a student must satisfactorily complete an EMS specific pre-admission screening which includes both written and practical components at the Emergency Medical Technician level (EMT) and attend an informational orientation with the program staff.
3. Drug testing and immunizations are required prior to admission to the first clinical course (531-926 or 531-927).
4. Applicants of this program are subject to a review of their criminal backgrounds as part of the training center training permit process. Positive background checks may negatively impact your ability to pursue this career at Gateway Technical College.
5. Transfer credits in Social Science may substitute for this course. See an advisor for details.
6. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
7. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

**The EMT Paramedic Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).**

Commission on Accreditation of Allied Health Education Programs
25400 US Highway 19 N., Suite 158
Clearwater, FL 33763
727-210-2350
www.caahep.org

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

**EQUAL OPPORTUNITY EMPLOYER AND EDUCATOR/EMPLEADOR Y EDUCADOR QUE OFRECE IGUALDAD DE OPORTUNIDADES**

**Pharmacy Technician** (31-536-1)
Technical Diploma
**Effective 2019/2020**

*ealth Science*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 501-101 | | * | Medical Terminology | Prereq: 838-105 | 1,3 | 3 | FA, SP, SU |
| | 536-110 | 🎓 | * | Pharmacy Calculations | Prereq: 834-109 | 2,3 | 3 | FA, SP |
| | 536-115 | | * | Pharmacy Law | | | 2 | FA, SP |
| | 536-121 | | * | Fund. Reading Prescriptions | | | 2 | FA, SP |
| | 536-108 | | * | Pharmacy Services I | Prereq: 103-142 OR 860-720 OR 501-107 Coreq: 536-110; 115; 121 | 3 | 4 | FA, SP |
| | 536-105 | | * | Pharmacy Community Clinical | Coreq: 536-108 | 4 | 2 | FA, SP |
| | 536-101 | | * | Sterile Tech for Pharm Tech | Prereq: 536-105; 108 | | 3 | SP |
| | 536-104 | | * | Pharmacy Benefit Management | Prereq: 536-105; 108 | | 1 | SP |
| | 536-107 | | * | Pharmacy Distribution Systems | Prereq: 536-105; 108 | | 1 | SP |
| | 536-122 | | * | Pharmacology for Pharm Tech | Prereq: 536-105; 108 | | 3 | SP |
| | 536-109 | | * | Pharmacy Services II | Prereq: 536-105; 108 | | 2 | SP |
| | 536-103 | | * | Pharmacy Hospital Clinical | Prereq: 536-105; 108 Coreq: 536-101; 104; 107; 109; 122 | 4 | 2 | SP |
| | 801-198 801-196 | **OR** | | Speech Oral/Interpersonal Communication | | 1,3 | 3 | FA, SP, SU |
| | 196-191 | | | Supervision | | | 3 | FA, SP, SU |
| | | | | ***Minimum Program Total Credits Required*** | | | **34** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | On-Time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $2,320 | $5,601 | 25% | Pharmacy Technicians (29-2052) |

[2] **On-time Graduation Rate:** Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Pharmacy Technician (31-536-1)

The *Pharmacy Technician* diploma program is designed to prepare you to assist the pharmacist in preparation of drug products and prescriptions to be dispensed to the general public. The course of study covers one year of both academic and clerkship courses. This program is directed toward providing you with the skills and knowledge needed to obtain employment in either community or hospital pharmacies. Pharmacy technicians perform a variety of tasks including preparation of prescriptions, all types of record-keeping, inventory control, cash and credit transactions and third-party claims. Emphasis is placed on communication and customer relations in this health care occupation.

### Program Learning Outcomes

Graduates will be able to:
1. Demonstrate personal /interpersonal knowledge and skills in the practice of pharmacy
2. Demonstrate foundational professional knowledge and skills for the practice of pharmacy
3. Prepare prescriptions/medication orders and pharmaceutical products for dispensing, distributions, and disposal
4. Compound sterile and nonsterile medications
5. Follow established policies and procedures for procurement, billing, reimbursement and inventory management
6. Utilize pharmacy technology and informatics
7. Adhere to state and federal regulations governing the practice of pharmacy
8. Apply the principles of quality assurance to the practice of pharmacy

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.

5. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements

1. Minimum 34 credits with an average of 2.0 or above.
2. *A minimum grade of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Evenings | Burlington | FA |

### Notes

1. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.
2. Students must have received a "B-" or better in 834-109 Pre-Algebra.
3. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
4. Please note that your program requires additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing. These must be completed prior to the start date of clinical and valid through the end date of clinical.

Certification: Two organizations, the Pharmacy Technician Certification Board and the Institute for the Certification of Pharmacy Technicians, administer national certification examinations. Certification is voluntary in most states, but is required by some states and employers. Some technicians are hired without formal training, but under the condition that they obtain certification within a specified period of time. To be eligible for either exam, candidates must have a high school diploma or GED, no felony convictions of any kind within 5 years of applying, and no drug or pharmacy related felony convictions at any point.

This program is accredited by the Pharmacy Technician Accreditation Commission (PTAC), a collaboration of the American Society of Health-System Pharmacists (ASHP) and the Accreditation Council for Pharmacy Education (ACPE).

Pharmacy Technician

gtc.edu

**Physical Therapist Assistant** (10-524-1)
Associate of Applied Science
**Effective 2019/2020**

*ealth Science*

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 806-177 | 🎓 | * | General Anatomy & Physiology | | 7 | 4 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 2,7 | 3 | FA, SP, SU |
| | 801-196 | | | Oral/Interpersonal Communication | | 2 | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 2,5,7 | 3 | FA, SP, SU |
| | 524-156 | 🎓 | * | PTA Applied Kinesiology 1 | Prereq: Instructor Consent; 801-136 | 3,7 | 4 | FA |
| | 524-139 | | * | PTA Patient Interventions | Prereq: Instructor Consent | 3,7 | 4 | FA |
| | 524-140 | | * | PTA Professional Issues 1 | Prereq: Instructor Consent | 3,7 | 2 | FA |
| | 524-143 | | * | PTA Therapeutic Modalities | Prereq: Instructor Consent Coreq: 524-139 | 3,7 | 4 | FA |
| | 524-157 | | * | PTA Applied Kinesiology 2 | Prereq: 524-156 | 7 | 3 | SP |
| | 524-147 | | * | PTA Clinical Practice 1 | Coreq: 524-143; 157 | 6,7 | 2 | SP |
| | 524-142 | | * | PTA Therapeutic Exerc. | Prereq: 806-177; Coreq: 524-156 | | 3 | SP |
| | 524-145 | | * | PTA Principles of Musculoskeletal Rehab. | Prereq: 524-139; Coreq: 524-142; 157 | | 4 | SP |
| | 524-144 | | * | PTA Princ of Neuro Rehab. | Prereq: 524-139; 142; 157 | | 4 | FA |
| | 524-146 | | * | PTA Cardio & Integ Mgmt | Prereq: 524-139; 142; 157 | 7 | 3 | FA |
| | 524-148 | | * | PTA Clinical Practice 2 | Prereq: 524-147 | 6,7 | 3 | FA |
| | 809-188 | | | Psychology, Developmental | Prereq: 838-105 | 2 | 3 | FA, SP, SU |
| | 524-149 | | * | PTA Rehabilitation Across the Lifespan | Prereq: 524-144; 145; 148 Coreq: 524-146 | | 2 | SP |
| | 524-150 | | * | PTA Professional Issues 2 | Prereq: 524-140  Coreq: 524-148 | | 2 | SP |
| | 524-151 | | * | PTA Clinical Practice 3 | Prereq: 524-144; 145; 146; 148 | 6 | 5 | SP |
| | 809-172 | | | Diversity Studies, Introduction to | Prereq: 838-105 | 2,5 | 3 | FA, SP, SU |
| | | | | **Minimum Program Total Credits Required** | | | **64** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Physical Therapist Assistant (10-524-1)

*Physical Therapist Assistant* is a health profession with the primary purpose of promoting optimal human health and function through the application of scientific principles to prevent, identify, assess, correct, or alleviate acute or prolonged movement dysfunction. The physical therapist assistant (PTA) is a technical health care worker who carries out many patient treatments under the supervision of a physical therapist. PTAs find employment in clinics, hospitals, nursing homes, rehabilitation centers, home care agencies, schools, private health and fitness centers, and other settings.

### Program Learning Outcomes
Graduates will be able to:
1. Demonstrate clear and collaborative communication with patients, families, and health care team.
2. Exhibit behaviors and conduct that reflect respect and sensitivity according to PT practice standards.
3. Function under the supervision of a physical therapist in a safe, legal, ethical manner to ensure the safety of patient, self and others throughout the clinical interaction.
4. Produce documentation to support the delivery physical therapy services.
5. Demonstrate critical thinking skills to implement and modify treatment within a plan of care under the direction and supervision of a physical therapist.
6. Perform data collection essential for carrying out the plan of care under the direction and supervision of the physical therapist.
7. Perform technically competent, evidence based physical therapy interventions under the direction and supervision of the physical therapist.
8. Educate patients, families, and other health providers.
9. Integrate components of operational and fiscal practices of physical therapy service in a variety of settings.
10. Implement a self-directed plan for career development, credentialing, and lifelong learning.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.
5. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements
1. Minimum 64 credits with an average of 2.0 or above.
2. *A minimum grade of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|      | Location(s) | Starting Term(s) |
|------|-------------|------------------|
| Days | Kenosha     | FA               |

### Notes
1. This program may require additional fee(s) for: Criminal background Check, Medical Document Manager, and/or Drug Testing.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
3. This program uses a petition process for clinical/practicum/ program courses. Students are selected based on completion of academic eligibility requirements and district residency status. See "What is Petitioning?" on the website for additional information.
4. CPR certification must be obtained and maintained. See advisor for specific requirements.
5. Transfer credits in Social Science may substitute for this course. See advisor for details.
6. The grading system for the following courses will be pass/fail: 524-147 PTA Clinical Practice 1, 524-148 PTA Clinical Practice 2, and 524-151 PTA Clinical Practice 3.
7. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

# Professional Communications (10-699-1)
## Associate of Applied Science
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 103-143 | | | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1,4 | 3 | FA, SP, SU |
| | 699-110 | 🎓 | * | Communication Document Design | Coreq: 103-143 | | 3 | FA |
| | 699-117 | 🎓 | * | Research Fundamentals | | | 3 | FA |
| | 699-133 | | | Writing for Social Media | Prereq: 831-103 | | 3 | FA |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,4 | 3 | FA, SP, SU |
| | 204-107 | | | Digital Photography, Intro to | | | 3 | FA, SP, SU |
| | 699-112 | 🎓 | * | Editing | Prereq: 831-103 Coreq: 801-136 | 1 | 3 | SP |
| | 699-114 | 🎓 | * | Professional and Technical Writing | Prereq: 831-103 | 1 | 3 | SP |
| | *Take any 699- course from the list of suggested electives on the back of this sheet.* | | | | | 2 | 3 | SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 204-105 | | | Computer Illustration & Drawing Tech | | | 3 | FA, SP, SU |
| | 699-111 | 🎓 | * | Communication Project Management | Prereq: 804-135 | | 3 | FA |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | FA |
| | 801-197 | | | Technical Reporting | Prereq: 801-136 | | 3 | FA, SP, SU |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | 699-115 102-138 | | *OR | Professional Communications Internship Biz Internship | Prereq: 699-111; 101-112 Prereq: Instructor Consent | | 3 | FA, SP, SU SP |
| | 699-116 | | * | Professional Communications Portfolio | Prereq: 699-111; 101-112 | | 1 | SP |
| | 699-130 | | * | Writing and Publishing | | | 3 | SP |
| | *Take 3 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 3 | SP |
| | 801-196 801-198 | | OR | Oral/Interpersonal Communication Speech | | 1 | 3 | FA, SP, SU |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,3,4 | 3 | FA, SP, SU |
| | | | | ***Minimum Program Total Credits Required*** | | | ***61*** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Professional Communications (10-699-1)

*Professional Communications* prepares students to research, plan, create, publish, and evaluate communication products. The curriculum develops the writing, design, and technology skills that students need to produce a variety of paper and electronic communication products, including articles, audiovisual scripts, grant proposals, promotional pieces, social media pages, user assistance, and websites. Professional communication skills are needed to meet the demands of the information age in business, government, and not-for-profit organizations.

### Program Learning Outcomes
Graduates will be able to:
1. Plan for a communication project.
2. Create a communication project.
3. Synthesize text, visual elements, and design in a communication product.
4. Manage all aspects of a communication project
5. Produce a final communication product.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 61 credits with an average of 2.0 or above.
2. *A minimum of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days, Evenings | Racine | FA, SP |
|  | Online | FA, SP |

### Suggested Electives

| | |
|---|---|
| 699-113 Information Design | 699-135 Writing for the Web |
| 699-131 Writing Copy for Sales | 699-136 Writing Grant Proposals |
| 699-132 Writing for Organizations | 699-137 Writing Product Documentation |
| 699-134 Writing for the Media | 699-138 Writing Software User Assist. |
| 699-130 Writing and Publishing | 809-172 Diversity Studies, Intro to |
| | 806-112 Principles of Sustainability |

### Notes
1. A satisfactory placement test score (or successful remediation is required prior to enrollment). See advisor for details.
2. Choose 6 credits from the following courses: 699-130; 699-131; 699-132; 699-134; 699-135; 699-136; 699-137; 699-138; 699-113; 809-172; 806-112. If using a course to fulfill this requirement, students will not be allowed also to use the course to fulfill the elective requirement for the program. See an advisor for details.
3. Transfer credits in Social Science may substitute for this course. See an advisor for details.
4. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

Gateway Technical College's Professional Communications program is fully accredited and in good standing with the Accreditation Council for Business Schools and programs [www.acbsp.org].

Accreditation Council for Business Schools and Programs (ACBSP)
11520 West 119th Street
Overland Park, KS 66213
Phone: (913) 339-9356
www.acbsp.org

**Small Business Entrepreneurship** (31-145-1)
Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 104-101 | * | Marketing Principles | | | 3 | FA, SP |
| | 101-112 | * | Accounting for Business | | | 3 | FA, SP |
| | 103-143 | * | Computers for Professionals | Prereq: 103-142 OR 860-720 | 1,2 | 3 | FA, SP, SU |
| | 145-119 | 🎓 * | Entrepreneurship | | | 3 | FA, SP |
| | 801-136 | | English Composition 1 | Prereq: 831-103 | 1,2 | 3 | FA, SP, SU |
| | 145-120 | * | Business Planning and Development | Prereq: 145-119 | | 3 | FA, SP |
| | 104-105 | * | Promotion Principles | | | 3 | FA, SP |
| | 145-121 | * | Small Business Ownership | Prereq: Instructor Consent; 801-136; Coreq: 145-120 | | 3 | FA, SP |
| | 145-106 | * | Entrepreneurship 3 – Operations MGMT | Coreq: 145-119 | | 3 | FA, SP |
| | 104-116 | * | E-Marketing/Social Media | Prereq: 104-101 | | 3 | FA, SP |
| | 104-104 | * | Selling Principles | | | 3 | FA, SP |
| | | | ***Minimum Program Total Credits Required*** | | | **33** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $2,251 | $5,212 | Managers (11-9199) |

## Small Business Entrepreneurship (31-145-1)

Creating your own path through entrepreneurship takes inspiration, dedication, and the knowledge of the technical skills necessary to operate a business. You can complete the technical diploma in Small Business Entrepreneurship in two semesters. The coursework combines business theory with applied application to your proposed business. Whether you are launching your own venture, working for a small business, or working as a project manager for a large firm, the skills you will develop in this program will be an asset to your career.

### Program Learning Outcomes

Graduates will be able to:
1. Demonstrate an entrepreneurial mindset.
2. Develop a business canvas and/or plan.
3. Outline business operational plan.
4. Develop a small business marketing plan.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 33 credits with an average of 2.0 or above.
2. * Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements check the Student Handbook.

### Program Offerings

|          | Location(s) | Starting Term(s) |
|----------|-------------|------------------|
| Evenings | Racine      | FA               |
| Days     | Elkhorn     | SP               |
|          | Online      | FA               |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

**gtc.edu**

**Supply Chain Management** (10-182-1)
Associate of Applied Science
**Effective 2019/2020**

The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 801-136 | | | English Composition I | Prereq: 831-103 | 1, 2 | 3 | FA, SP |
| | 102-137 | | * | Intro to Business | | 2 | 3 | FA, SP |
| | 196-190 | | * | Leadership Development | | 1, 2 | 3 | FA, SP |
| | 182-101 | 🎓 | * | Supply Chain Management | | | 3 | FA, SP |
| | 182-102 | | * | Logistics | | | 3 | FA, SP |
| | 804-135 | | | Quantitative Reasoning | Prereq: 834-109 | 1 | 3 | FA, SP, SU |
| | 182-108 | | * | Purchasing | | | 3 | SP |
| | 628-115 | | * | Industrial Robotics and Programing | | | 3 | FA, SP |
| | 196-136 | | * | Safety in the Workplace | | 2 | 3 | FA, SP |
| | 182-103 | | * | Global Supply Chain Management | Prereq: 182-101 | | 3 | SP |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1, 2 | 3 | FA, SP, SU |
| | 196-151 | | * | Operations Management | | | 3 | FA |
| | 182-106 | | * | Enterprise Resource Planning and Control | Prereq: 182-101; 804-135; 801-136 | | 3 | FA |
| | 196-133 | | * | Negotiations | | | 3 | FA |
| | 801-196 801-198 | | OR | Oral/Interpersonal Communications Speech | | 1 | 3 | FA, SP, SU |
| | 102-160 | | | Business Law | | 2 | 3 | FA, SP |
| | 182-107 196-188 | | *OR | Supply Chain Internship Project Management | Prereq: Instructor Consent | | 3 | SP FA, SP |
| | 809-195 | | | Economics | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | *Take 6 elective credits. Any associate degree course may be taken as an elective. Over for suggested electives.* | | | | | | 6 | FA, SP, SU |
| | | | | *Minimum Program Total Credits Required* | | | *60* | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Supply Chain Management (10-182-1)

*Supply Chain Management* is the efficient movement of materials and products including all logistical activities involved in the flow of goods - from point of origin to point of consumption. This program focuses on operations, transportation, procurement and distribution of materials and products. Workers in this field are prepared to analyze and improve processes within their area. Skills in planning, decision making, continuous improvement, problem solving, and leadership will be learned. Possible careers in Supply Chain include manager, claims analyst, customer service representative, dispatcher, inventory analyst, inventory control specialist, logistics technician, materials planner, master production scheduler, purchasing assistant, shipping and receiving specialist, transportation planner/coordinator, warehouse specialist and international logistics technician.

### Program Learning Outcomes
Graduates will be able to:
1. Define (plan) operations, transportation, procurement and distribution.
2. Measure operations, transportation, procurement and distribution.
3. Analyze operations, transportation, procurement and distribution.
4. Improve operations, transportation, procurement and distribution.
5. Control operations, transportation, procurement and distribution.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 60 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Evenings | Kenosha | FA |
|  | Online | FA |

### Suggested Electives

101-114 Principles of Accounting
196-192 Managing for Quality
196-137 Certified Service Specialist
443-101 Forklift Operation and Maintenance

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A credit for prior learning assessment is available for this course. For more information, contact cfpl@gtc.edu.



Foxconn preferred programs prepare students for potential career opportunities at Foxconn. Completion of a preferred program does not guarantee employment.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

**EQUAL OPPORTUNITY EMPLOYER AND EDUCATOR/EMPLEADOR Y EDUCADOR QUE OFRECE IGUALDAD DE OPORTUNIDADES**

# Surgical Technology (10-512-1)
## Associate of Applied Science
**Effective 2019/2020**

Health Science

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

**Surgical Technology**

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 806-177 | | * | General Anatomy & Physiology | | 12 | 4 | FA, SP, SU |
| | 512-125 | 🎓 | * | Intro to Surgical Technology | Prereq: Advisor Consent; 806-177 Coreq: 501-101 | 12 | 4 | FA |
| | 512-126 | 🎓 | * | Surgical Tech Fundamentals 1 | Prereq: 806-177 & Advisor Consent Coreq: 501-101; 512-125 | 12 | 4 | FA |
| | 512-127 | | * | Exploring Surgical Issues | Prereq: Advisor Consent Coreq: 512-125; 126 | 12 | 2 | FA |
| | 806-179 | | * | Anatomy and Physiology, Advanced | Prereq: 806-177 | 7,12 | 4 | FA, SP, SU |
| | 501-101 | | * | Medical Terminology | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | 512-128 | 🎓 | * | Surgical Tech Fundamentals 2 | Prereq: 512-126; 125; 127; 501-101 Coreq: 806-179; 197; 512-129 | | 4 | SP |
| | 512-129 | | * | Surgical Pharmacology | Prereq: 512-125; 126 | 12 | 2 | SP |
| | 512-130 | 🎓 | * | Surgical Skills Applications 1 | Prereq: 512-125; 126; 127; 128 & Advisor Consent; Coreq: 512-129 | 12 | 2 | SP |
| | 806-197 | | * | Microbiology | Prereq: 806-177 OR 806-105 | 7,11 | 4 | FA, SP, SU |
| | 801-136 | | | English Composition 1 | Prereq: 831-103 | 1,12 | 3 | FA, SP, SU |
| | 512-131 | | * | Surgical Interventions 1 | Prereq: 512-128; 512-130; 801-136 | 12 | 4 | FA |
| | 512-132 | 🎓 | * | Surgical Technology Clinical 1 | Prereq: 512-128; 129; 130 & Advisor Consent Coreq: 512-131 | 2,3,12 | 3 | FA |
| | 512-133 | | * | Surgical Technology Clinical 2 | Prereq: 512-129; 130; 132 & Advisor Consent Coreq: 512-131 | 2,3,12 | 3 | FA |
| | 809-198 | | | Psychology, Introduction to | Prereq: 838-105 | 1,10,12 | 3 | FA, SP, SU |
| | 801-196 | | | Oral/Interpersonal Communication | | 1 | 3 | FA, SP, SU |
| | 512-142 | | * | Surgical Interventions II | Prereq: 512-131; 133 Coreq: 512-135; 136 | 12 | 4 | SP |
| | 512-135 | | * | Surgical Technology Clinical 3 | Prereq: 512-131; 133 & Advisor Consent Coreq: 512-142 | 2,3,12 | 3 | SP |
| | 512-136 | | * | Surgical Technology Clinical 4 | Prereq: 512-135 & Advisor Consent Coreq: 512-142 | 2,3,13 | 3 | SP |
| | 809-196 | | | Sociology, Introduction to | Prereq: 838-105 | 1,10,12 | 3 | FA, SP, SU |
| | | | | ***Minimum Program Total Credits Required*** | | | **65** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Surgical Technology (10-512-1)

*Surgical Technology* graduates are allied health professionals who are an integral part of the team of medical practitioners providing surgical care to patients in a variety of settings. The surgical technologist works under medical supervision to facilitate the safe and effective conduct of invasive surgical procedures. This individual works to ensure that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety. A surgical technologist possesses expertise in the theory and application of sterile and aseptic technique and combines the knowledge of human anatomy, surgical procedures, and implementation tools and technologies to facilitate a physician's performance of invasive therapeutic and diagnostic procedures.

### Program Learning Outcomes
Graduates will be able to:
1. Apply healthcare and technological science principles to the perioperative environment.
2. Maintain principles of sterile technique in the surgical environment.
3. Provide a safe, efficient, and supportive environment for the patient.
4. Prepare the patient, operating room, and surgical team for the perioperative phase.
5. Perform intraoperative case management in the scrub role.
6. Perform postoperative case management.
7. Function as an ethical, legal, and professional member of the healthcare team as determined by governing bodies.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.
5. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements
1. Minimum 65 credits with an average of 2.0 or above.
2. *A minimum grade of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|      | Location(s) | Starting Term(s) |
|------|-------------|------------------|
| Days | Kenosha     | FA               |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A liability fee is assessed on all clinical courses.
3. Clinical sites may require proof of insurance.
4. There is a daily exposure to latex products in this program. Those with latex sensitivity may find exposure to latex impossible to avoid in this environment.
5. Students will be selected for their initial core 512 courses and clinical/practicum/program courses using a petitioning process. Students are selected based on completion of academic eligibility requirements and district residency status. See "What is Petitioning?" on the website for additional information.
6. Students will be required to provide annual tuberculosis test results, proof of influenza immunization, and a 10 panel drug screen before clinical placements can occur. Additionally, students will be required to remain CPR certified BLS for the HealthCare Provider with American Heart Association during the entire duration of the program.
7. The prereq for this course must have been completed with a minimum grade of "C".
8. Students must complete a total of 120 surgical procedures (80 that are first scrub and 40 second scrub) during the clinical rotation per ARC-STSA requirements.
9. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
10. Transfer credits in Social Science may substitute for this course. See an advisor for details.
11. It is preferred that students in this program complete 806-177 as the prereq for this course.
12. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.
13. This course is graded on a Pass/Fail basis.
14. Students must complete the Certified Surgical Technologist exam upon completion of the program which includes an extra fee that the student is required to pay in addition to their normal tuition fees. This exam is an accreditation requirement per ARC-STSA and most employers located in this area require their surgical technology staff to have this certification within a year.

The Surgical Technology program is fully accredited by the Commission on Accreditation of Allied Health Education Programs:
25400 US Highway 19 North, Suite 158
Clearwater, FL 33763
Phone: (727) 210-2350 Fax: (727) 210-2354

## Tool and Die Technician (31-439-1)
### Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 444-331 | 🎓 | * | CNC Machining Technology | | | 3 | FA, SP, SU |
| | 444-337 | 🎓 | * | Fund. Of Blueprint and Shop Safety | | | 3 | FA, SP, SU |
| | 444-338 | | * | Fund. Of CNC Machine Application | Coreq: 444-337 | | 4 | FA, SP, SU |
| | 444-339 | | * | Gauging and Quality Control | | 2 | 3 | FA, SP, SU |
| | 801-302 | | * | Speaking Principles | | | 1 | SP |
| | 804-370 | | | Mathematics, I Applied | Prereq: 854-760 | 1 | 2 | FA, SP |
| | 420-328 | | * | Heat Treating Processes | | | 2 | FA, SP |
| | 420-330 | | * | Machine Tool I | | | 4 | FA, SP |
| | 420-332 | | * | Machine Tool II | Coreq: 420-330; 804-370 | | 4 | FA, SP |
| | 439-301 | | * | Tool Room Application Theory | | | 1 | FA, SP |
| | 439-300 | | * | Basic CAD/Basic Tool Room CAM | Coreq: 804-370 | | 2 | FA, SP |
| | 442-102 | | * | Intro to Welding | | | 2 | FA, SP, SU |
| | 804-371 | | | Mathematics II, Applied | Prereq: 804-370 | 1 | 1 | FA, SP |
| | | | | **Minimum Program Total Credits Required** | | | **32** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|
| $2,183 | $5,952 | Tool and Die Makers (51-4111) |

## Tool and Die Technician (31-439-1)

The *Tool and Die Technician* program prepares students for entry into the metal working industry. Instruction is offered on basic machine tools as well as machines such as the electrical discharge machine, along with jigs, fixtures, gauges, and machinist hand tools. Related training includes blueprint reading, mathematics, precision inspection, and the use of the latest tooling available. This area of study prepares students to enter the field by developing quality skills in precision machining and enables learning of the specific abilities used to create precise machine parts and components. The tool and die work environment centers around the machine shop, tool rooms, and working on factory floors.

### Program Learning Outcomes

Graduates will be able to:
1. Apply basic safety practices in the machine shop.
2. Interpret industrial/engineering drawings.
3. Apply precision measuring methods to part inspection.
4. Perform basic machine tool equipment set-up and operation.
5. Perform programming, set-up and operation of CNC machine tools.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 32 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|          | Location(s) | Starting Term(s) |
|----------|-------------|------------------|
| Days     | Elkhorn     | FA, SP           |
| Evenings | iMET        | FA, SP           |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.

**Tool and Die Technician**

gtc.edu

**Truck Driving** (30-458-1)
Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|---|
| | 458-301 | 🎓 | * | CDL & Inspection Law and Logistics | | | 3 | FA, SP, SU |
| | 458-302 | 🎓 | * | CDL License, Driving Skills, Safety | Prereq: 458-301 | | 4 | FA, SP, SU |
| | 458-303 | | * | Continuous Improvement & Hazard Safety | Prereq: 458-302 | | 3 | FA, SP, SU |
| | | | | ***Minimum Program Total Credits Required*** | | | ***10*** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Truck Driving (30-458-1)

Professional truck drivers for local, regional, and over the road jobs are in high demand. Become part of this exciting industry. This 360 hour course covers all aspects from obtaining your Commercial Learner's Permit (CLP) to the opportunity to obtain your Commercial Driver's License (CDL). You will learn how to safely operate a tractor trailer, laws and regulations, maintenance, vehicle systems and safety.

### Program Learning Outcomes

Graduates will be able to:
1. Obtain a Commercial Learner's Permit.
2. Safely drive a commercial vehicle.
3. Demonstrate knowledge of U.S. laws and regulations of a commercial motor vehicle.
4. Demonstrate the ability to plan trips and routes and manage cargo and documents.
5. Inspect the vehicle to ensure safe operation.
6. Communicate effectively with peers, customers, and the public.
7. Obtain a Commercial Driver's License.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Participants must have a valid Wisconsin Driver's License.
3. Participants must pass a Department of Transportation (DOT) physical and drug screen.

### Graduation Requirements

1. Minimum 10 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Horizon Center | FA, SP, SU |

### Notes

1. Participants must be 18 years of age or older.
2. Participants must be able to speak and read English.

**Urban Farming** (10-810-20)
Advanced Technical Certificate
**Effective 2019/2020**

Agriculture, Food & Natural Resources

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 001-108 | * | Business of Urban Farming | Prereq: Instructor Consent | | 3 | SP |
| | 001-109 | * | Urban Farming and Market Gardening | | | 3 | FA |
| | 001-142 | * | Vegetable Science | | | 3 | SP, SU |
| | 145-119 | * | Entrepreneurship | | | 3 | FA, SP, SU |
| | | | ***Minimum Program Total Credits Required*** | | | ***12*** | |

## Urban Farming (10-810-20)

The Urban Farming ATC will enable completers to intensively farm small plots of land and bring their crops to market profitably. The certificate will combine intensive farming curriculum with entrepreneurship and business methods training.

### Equivalency

This program is designed for students who have completed one of the following Gateway Technical College Associate Degrees (or have the equivalent knowledge and skills):

Horticulture 10-001-1

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information, call the campus advisor.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Related associate degree (official transcript required) or equivalent work experience (documented by advisor) required.

### Graduation Requirements

1. *Minimum grade of 2.0 ('C") or above for these major courses.

For a complete list of Graduation Requirements check the Student Handbook.

**Program Offerings**

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Kenosha | FA, SP, SU |

# Veterinary Assistant (31-091-3)
## Technical Diploma
### Effective 2019/2020

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 091-101 | * | Animal Care and Management | Prereq: Instructor Consent Coreq: 806-105 | | 3 | FA |
| | 091-102 | * | Veterinary Business Practices | Coreq: 091-101 | | 3 | FA |
| | 806-105 | 🎓 | Principles of Animal Biology | | | 4 | FA, SP, SU |
| | 809-198 | | Psychology, Introduction to | Prereq: 838-105 | 1,2,15 | 3 | FA, SP, SU |
| | 091-103 | * | Clinical Pathology I for Vet Sciences | Prereq: 091-101; 091-102; 806-105 | 14 | 4 | SP |
| | 091-105 | * | Surgical Procedures I for Vet Sciences | Coreq: 091-103 | | 3 | SP |
| | 091-107 | * | Imaging for Veterinary Sciences | Coreq: 091-103 | | 3 | SP |
| | 801-196 OR 801-198 | | Oral/Interpersonal Communication Speech | | 1 | 3 | FA, SP, SU |
| | 091-108 | * | Veterinary Pharmacology | Prereq: 834-109; Coreq: 091-110 | 1 | 3 | SU |
| | 091-110 | * | Clinical Skills I for Vet Sciences | Prereq: 801-136; 091-105 & Instructor Consent Coreq: 091-103 | 13 | 2 | SU |
| | 091-111 | * | Clinical Skills II for Vet Sciences | Prereq: 091-110 & Instructor Consent | 13 | 2 | SU |
| | 091-120 | * | Animal Behavior | | | 1 | FA, SU |
| | 091-123 | * | Veterinary Medical Terminology | | | 2 | FA, SP, SU |
| | | | **Minimum Program Total Credits Required** | | | **36** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 10-091-1 Veterinary Technician program can earn their associate degree by completing an additional 29 credits. Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books & Supplies | Resident Tuition and Fees | On-Time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $2,456 | $6,459 | 100% | Veterinary Assistants and Laboratory Animal Caretakers (31-9096) |

[2] On-Time Graduation Rate: Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Veterinary Assistant (31-091-3)

In this program, students learn basic veterinary assistant skills including how to care for and handle animals, provide medical and surgical nursing, and perform radiography and clinical laboratory procedures. Applicable federal, state, and local law and ethical guidelines are presented to students throughout the program. Students complete clinical work under the direction of certified veterinary technicians and veterinarians. Upon completion of the program, graduates can provide professional support to veterinarians and veterinary technicians in veterinary clinics.

### Program Learning Outcomes
Graduates will be able to:
1. Participate in facility management utilizing traditional and electronic media and appropriate veterinary medical terminology and abbreviations.
2. Communicate in a professional manner in all formats - written, oral, non-verbal, and electronic.
3. Follow and uphold applicable laws and ethical codes involved in operation of a veterinary clinic in order to provide high quality care to patients.
4. Accurately and safely label, package, and store therapeutic agents and recognize general types of drugs used in a veterinary clinic.
5. Demonstrate and perform basic patient assessment and therapeutic techniques and husbandry in small companion animals.
6. Assist in performing surgical preparations and post-operative patient monitoring for common surgical procedures in small companion animals.
7. Understand and provide the appropriate instruments, supplies and environment to maintain asepsis for surgical procedures.
8. Demonstrate knowledge of proper handling, packaging and storage of specimens for laboratory analysis to ensure safety of patients, clients, and staff.
9. Safely assist with radiographic procedures and maintain radiographic equipment and records.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a Background Disclosure form and must request and pay for a background check. Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.
5. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements
1. Minimum 36 credits with an average of 2.0 or above.
2. *Minimum of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days | Elkhorn | FA |

### Notes
1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Transfer credits in Social Science may substitute for this course. See an advisor for details.
3. Students must maintain minimum course grades of "C" or better for all courses marked with an (*) to remain in the program.
4. A laptop computer, stethoscope, uniform, and other supplies will be needed.
5. Nearly daily exposure to latex and/or animal fur and dander will occur in this program. Those with sensitivities may find exposure impossible to avoid.
6. Immunocompromised individuals should consult their physician before enrollment.
7. Clinical sites are located throughout and potentially outside the district. Students are responsible for their own transportation.
8. Some clinical sites require TB testing and immunizations against tetanus and hepatitis B. Rabies immunization is recommended.
9. This program is full-time. Students should expect to be in class Monday-Friday 8 am-5 pm.
10. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
11. Microbiology (806-197) is recommended as an elective course.
12. Students admitted to the program must complete a volunteer shadowing experience in an approved clinical setting prior to registering for a Veterinary Assistant course. Documentation requirements will be included in the program admission packet.
13. The following courses use a pass/fail grading system: 091-110 and 091-111.
14. Students must receive a "B" or better in 806-105 before they can enroll in this course.
15. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.
16. Students are selected for core courses based on completion of academic eligibility requirements and district residency. See https://www.gtc.edu/admissions/additional-resources/petitioning/petitioning-eligibility.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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## Veterinary Technician (10-091-1)
### Associate of Applied Science
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 091-101 | * | Animal Care and Management | Prereq: Instructor Consent Coreq: 806-105 | | 3 | FA |
| | 091-102 | * | Veterinary Business Practices | Coreq: 091-101 | | 3 | FA |
| | 091-123 | * | Veterinary Medical Terminology | | | 2 | FA, SP, SU |
| | 801-136 | | English Composition 1 | Prereq: 831-103 | 1,14 | 3 | FA, SP, SU |
| | 806-105 | 🎓 | Principles of Animal Biology | | | 4 | FA, SP, SU |
| | 091-120 | | Animal Behavior | | | 1 | FA, SU |
| | 091-103 | 🎓 * | Clinical Pathology I for Vet Sciences | Prereq: 091-101; 091-102; 806-105 | 12 | 4 | SP |
| | 091-105 | * | Surgical Procedures I for Vet Sciences | Coreq: 091-103 | | 3 | SP |
| | 091-107 | * | Imaging for Veterinary Sciences | Coreq: 091-103 | | 3 | SP |
| | 801-196 OR 801-198 | | Oral/Interpersonal Communication Speech | | 1 | 3 | FA, SP, SU |
| | 091-108 | * | Veterinary Pharmacology | Prereq: 834-109; Coreq: 091-110 | 1 | 3 | SU |
| | 091-110 | * | Clinical Skills I for Vet Sciences | Prereq: 801-136; 091-105 & Instructor Consent Coreq: 091-103 | | 2 | SU |
| | 091-111 | * | Clinical Skills II for Vet Sciences | Prereq: 091-110 & Instructor Consent | | 2 | SU |
| | 806-197 | | Microbiology | Prereq: 806-105 OR 806-177 | 1,3 | 4 | FA, SP, SU |
| | 091-104 | * | Clinical Pathology II for Vet Sciences | Prereq: 806-197; Coreq: 091-106 | 13 | 4 | FA |
| | 091-106 | * | Surgical Procedures II for Vet Sciences | Prereq: 091-108; 091-111 | | 3 | FA |
| | 091-109 | * | Lab Animals and Non-Traditional Pets | Coreq: 091-104 | | 2 | FA |
| | 091-113 | * | Anesthesia for Veterinary Technicians | Prereq: 091-108; 091-111; Coreq: 091-106 | | 3 | FA |
| | 809-198 | | Psychology, Introduction to | Prereq: 838-105 | 1,2,14 | 3 | FA, SP, SU |
| | 091-112 | * | Clinical Skills III for Veterinary Science | Prereq: 091-106 & Instructor Consent | | 3 | SP |
| | 091-114 | * | Veterinary Tech. Clinical Internship | Prereq: 091-112 & Instructor Consent | | 4 | SP |
| | 809-166 | | Ethics: Theory and Apps, Intro to | Prereq: 838-105 | 1 | 3 | FA, SP, SU |
| | | | ***Minimum Program Total Credits Required*** | | | **65** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program. Courses should be taken in the order shown to help you stay on track and graduate on time.

## Veterinary Technician (10-091-1)

In this program, students learn veterinary technical skills such as how to care for and handle animals, provide medical and surgical nursing including anesthesiology and dental prophylaxis, and perform radiography and clinical laboratory procedures. Applicable federal, state, and local law and ethical guidelines are presented to students throughout the program. Students complete clinical work under the direction of certified veterinary technicians and veterinarians. Graduates will be eligible to take the Veterinary Technician National Exam (VTNE) administered by the Veterinary Examining Board of the Wisconsin Department of Agriculture, Trade, and Consumer Protection. Certified Veterinary Technicians provide professional support to veterinarians in veterinary clinics and hospitals, biological research settings, animal control and humane organizations, zoos, and educational facilities.

### Program Learning Outcomes

Graduates will be able to:
1. Manage veterinary business functions.
2. Integrate all aspects of patient management for anesthetic, surgical, and medical nursing procedures.
3. Produce diagnostic radiographic images.
4. Perform laboratory procedures.
5. Administer prescribed drugs.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math placement assessments.
3. Students must submit official high school, GED, or HSED transcript including a graduation or passing date.
4. Students must complete a Background Disclosure form and must request and pay for a background check.  Applicants for all health science programs are subject to a review of their criminal backgrounds. Positive background checks may negatively impact your ability to pursue a health career at Gateway Technical College. Each case will be individually evaluated based on all available evidence provided to the college.
5. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

### Graduation Requirements

1. Minimum 65 credits with an average of 2.0 or above.
2. *Minimum grade of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
| --- | --- | --- |
| Days | Elkhorn | FA |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Transfer credits in Social Science may substitute for this course. See an advisor for details.
3. It is preferred that students in this program complete 806-105 as the pre-req for this course.
4. Students must maintain minimum course grades of "C" or better for all courses marked with an (*) to remain in the program.
5. A laptop computer, stethoscope, uniform, and other supplies will be needed.
6. Nearly daily exposure to latex and/or animal fur and dander will occur in this program. Those with sensitivities may find exposure impossible to avoid.
7. Immunocompromised individuals should consult their physician before enrollment.
8. Clinical sites are located throughout and potentially outside the district. Students are responsible for their own transportation.
9. Some clinical sites require TB testing and immunizations against tetanus and hepatitis B. Rabies immunization is recommended.
10. This program is full-time. Students should expect to be in class Monday-Friday 8 am-5 pm.
11. Please note that your program may require additional fee(s) for: Criminal Background Check, Medical Documentation Manager, and/or Drug Testing.
12. Students must receive a "B" or better in 806-105 before they can enroll in this course.
13. The prerequisite for 806-197 (806-105 OR 806-177) must have been completed with a "C" or better.
14. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.
15. Students are selected for core courses based on completion of academic eligibility requirements and district residency. See https://www.gtc.edu/admissions/additional-resources/petitioning/petitioning-eligibility.
16. Students admitted to the program must complete a volunteer shadowing experience in an approved clinical setting prior to registering for a Veterinary Technician course. Documentation requirements will be included in the program admission packet. This is a high demand program with petitioning required. See the program adviser for details.

Veterinary Technician

GATEWAY TECHNICAL COLLEGE

Manufacturing

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 442-321 | * | Welding / Gas Metal Arc Welding | | | 3 | FA, SP, SU |
| | 442-322 | * | Welding / Shielded Metal Arc Welding | | | 3 | FA, SP, SU |
| | 442-323 | * | Welding / Gas Tungsten Arc Welding | | | 3 | FA, SP, SU |
| | 442-324 | * | Weld Printreading & Fab. Procedures | | | 2 | FA, SP, SU |
| | 442-334 | * | Welding / Oxyacetylene | | | 3 | FA, SP, SU |
| | 457-309 | 🎓 * | Metal Fabrication I | | | 2 | FA, SP, SU |
| | 457-336 | * | Metal Fabrication II | Prereq: 457-309; 442-324; 442-321; 442-322 or 442-323 Coreq: 804-370 | | 3 | FA, SP, SU |
| | 442-330 | * | Welding / Adv. Shielded Metal Arc Welding | Prereq: 442-322 | | 3 | FA, SP, SU |
| | 442-332 | * | Welding / Adv. Gas Metal Arc Welding | Prereq: 442-321 | | 3 | FA, SP, SU |
| | 442-333 | * | Welding / Adv. Gas Tungsten Arc Welding | Prereq: 442-323 | | 3 | FA, SP, SU |
| | 804-370 | | Mathematics I / Applied | Prereq: 854-760 | 1 | 2 | FA, SP |
| | 457-337 | * | Metal Fabrication III | Prereq: 457-336; 804-370 | | 3 | FA, SP, SU |
| | 442-308 | * | Welding / Pipe Shield Metal Arc Welding | Prereq: 442-322 | | 3 | FA, SP, SU |
| | 442-307 | * | Welding / Pipe Gas Tungsten Arc Welding | Prereq: 442-322; 442-323 | | 3 | FA, SP, SU |
| | 442-306 | * | Welding / Pipe Gas Metal Arc Welding | Prereq: 442-321 | | 3 | FA, SP, SU |
| | | | **Minimum Program Total Credits Required** | | | **42** | |

**AVAILABLE CONCENTRATION: ROBOTICS**

| Instead of these courses | Take these alternates | | | |
|---|---|---|---|---|
| *442-308 Welding / Pipe Shield Metal Arc | *442-303 Welding / Basics of Robotic Welding | Prereq: 442-321 | 3 | FA, SP, SU |
| *442-307 Welding / Pipe Gas Tungsten Arc | *442-305 Welding / Robotic Adv GTAW | | 3 | FA, SP, SU |
| *442-306 Welding / Pipe Gas Metal Arc | *442-304 Welding / Robotic Adv GMAW | | 3 | FA, SP, SU |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

## Welding (31-442-1)

*Welding* provides concentrated instruction, primarily through practical experience, on various welding techniques. The following processes are covered: O-A-Oxyacetylene welding, brazing, and cutting; GMAW-gas metal arc welding (wire, MIG, short circuit); GTAW-gas tungsten arc welding (TIG, heliarc); and SMAW-shielded metal arc welding (stick, arc), including robotic welding and cutting.

### Program Learning Outcomes

Graduates will be able to:
1. Demonstrate Industry recognized safety practices.
2. Interpret molding drawings.
3. Produce shielded metal arc welds (SMAW).
4. Produce gas metal arc welds (GMAW).
5. Produce Flux core welds.
6. Produce gas tungsten arc welds (GTAW).
7. Perform cutting operations.

### Core Abilities

Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:

1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements

1. Minimum 42 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
|---|---|---|
| Days & Evenings | Racine, Elkhorn | FA, SP, SU |

### Notes

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Safety glasses are required in labs. If prescription glasses are required, allow a minimum of 90 days before the program start to obtain prescription and glasses.
3. Students are required to have an arc welding helmet, oxy-acet goggles, welding gloves (leather), pliers, and tape measure. Students must be prepared to bring their own equipment.

**Welding**

# Welding/Maintenance & Fabrication (30-442-2)
Technical Diploma
**Effective 2019/2020**

*The course sequence shown on this sheet is the recommended path to completion of the program and reflects how courses are regularly scheduled. Courses will be scheduled in the terms indicated here. Courses may be taken out of sequence as long as requisites are met.*

| √ | Course Number | | Course Title | Requisites | Notes | Credits | Terms Offered |
|---|---|---|---|---|---|---|---|
| | 442-321 | * | Welding / Gas Metal Arc Welding | | | 3 | FA, SP, SU |
| | 442-322 | * | Welding / Shielded Metal Arc Welding | | | 3 | FA, SP, SU |
| | 442-323 | * | Welding / Gas Tungsten Arc Welding | | | 3 | FA, SP, SU |
| | 442-324 | * | Weld Printreading & Fab. Procedures | | | 2 | FA, SP, SU |
| | 442-334 | * | Welding / Oxyacetylene | | | 3 | FA, SP, SU |
| | 457-309 | 🎓 * | Metal Fabrication I | | | 2 | FA, SP, SU |
| | | | **Minimum Program Total Credits Required** | | | **16** | |

🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for your success throughout the program.
Courses should be taken in the order shown to help you stay on track and graduate on time.

Students interested in continuing into the 31-442-1 Welding program can earn their technical diploma by completing an additional 26 credits.
Please see your academic advisor for details.

Federal regulations require disclosure of the following information for this program:

| Books and Supplies | Resident Tuition and Fees | On-Time Graduation Rate[2] | U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at http://www.onetonline.org |
|---|---|---|---|
| $1,092 | $3,686 | 5% | Welding, Soldering, and Brazing Machine Setters, Operators, & Tenders (51-4122) |

[2] On-time Graduation Rate: Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.

## Welding/Maintenance & Fabrication (30-442-2)

*Welding/Maintenance & Fabrication* provides concentrated instruction, primarily through practical experience, on various welding techniques. The following processes are covered: O-A-Oxyacetylene welding and cutting; GMAW-gas metal arc welding (wire, MIG, short circuit); GTAW-gas tungsten arc welding (TIG, heliarc); and SMAW-shielded metal arc welding (stick, arc).

### Program Learning Outcomes
Graduates will be able to:
1. Demonstrate industry-recognized safety practices.
2. Interpret welding drawings.
3. Produce shielded metal arc welds (SMAW).
4. Produce gas metal arc welds (GMAW).
5. Perform cutting operations.

### Core Abilities
Gateway's nine core abilities are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will be able to:
1. Act responsibly.
2. Communicate clearly and effectively.
3. Demonstrate essential computer skills.
4. Demonstrate essential mathematical skills.
5. Develop job seeking skills.
6. Respect themselves and others as members of a diverse community.
7. Think critically and creatively.
8. Work cooperatively.
9. Value learning.

### Admission Requirements
1. Students must submit an application and pay $30 fee.
2. Students must complete reading, writing, and math skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

### Graduation Requirements
1. Minimum 16 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
For a complete list of Graduation Requirements, check the Student Handbook.

### Program Offerings

|  | Location(s) | Starting Term(s) |
| --- | --- | --- |
| Days & Evenings | Racine, Elkhorn | FA, SP, SU |

### Notes
1. Safety glasses are required in labs. If prescription glasses are required, allow a minimum of 90 days before the program start to obtain prescription and glasses.
2. Students are required to have an arc welding helmet, oxy-acet goggles, welding gloves (leather), pliers, and tape measure. Students must be prepared to bring their own equipment.

# Dental Hygiene (10-508-1)
## Shared Program with MATC
Associate of Applied Science
**Effective 2019/2020**

## Dental Hygiene (10-508-1)

*This is a shared program with Milwaukee Area Technical College (MATC).*

The Dental Hygiene associate degree program is accredited with reporting by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting body recognized by the U.S. Department of Education. The program's curriculum blends academic and clinical courses. Clinical experience is acquired in the dental hygiene clinic at Milwaukee Area Technical College and several external sites. The American Dental Hygienists' Association website provides additional professional information at www.ADHA.org.

## Program Requirements
Consult the MATC website for program and admission requirements at
http://www.matc.edu/student/offerings/2012-2013/degrees/dental_hygiene.cfm?cssearch=942320_1.

## Graduation Requirements
Consult the MATC website for graduation requirements at http://www.matc.edu/.

## Program Learning Outcomes
Graduates will be able to:
1. Incorporate into dental hygiene practice professional laws, regulations and policies established by the licensing state and regulatory agencies.
2. Model dental hygiene professional code of ethics in a rapidly changing environment.
3. Pursue lifelong professional growth and development through self-directed learning, participation in professional organizations, and continuing education.
4. Counsel clients/patients to reduce health risks.
5. Provide community oral health services in a variety of settings.
6. Manage infection and hazard control.
7. Assess data on all aspects of patient/client health using methods consistent with dental hygienist scope of practice and legal principles.
8. Formulate a comprehensive dental hygiene care plan in collaboration with the client and other health professionals.
9. Provide preventive and therapeutic services that promote oral health according to the needs of the patient/client.
10. Evaluate the effectiveness of the implemented client/patient dental hygiene care plan and modify as needed.
11. Evaluate effectiveness of implemented clinical and educational services. Modify as needed.

## Gateway Course Requirements
Students choosing to start the Dental Hygiene program at Gateway are able to complete up to 34 credits toward the degree at MATC. All courses will satisfy program requirements in the Dental Hygiene program under the shared agreement as long as minimum requirements have been met. Consult the MATC website for requirements at http://www.matc.edu/student/offerings/2012-2013/degrees/dental_hygiene.cfm?cssearch=942320_1.

| Course | | Credits | Prereq |
|---|---|---|---|
| 801-136 English Composition 1 | | 3 cr. | (Prereq: 831-103; see Note 2) |
| 801-196 Oral/Interpersonal Comm. | | 3 cr. | |
| OR | | | |
| 801-198 Speech | | 3 cr. | |
| 806-177 Gen. Anatomy & Phys. | | 4 cr. | |
| 806-197 Microbiology | | 4 cr. | (Prereq: 806-177 OR 806-105) |
| 806-186 Intro to Biochemistry | | 4 cr. | (Prereq: 806-134) |
| 508-101 Dental Health Safety | | 1 cr. | |
| 508-103 Dental Radiography | | 2 cr. | |
| 508-113 Dental Materials | | 2 cr. | |
| 809-195 Economics | | 3 cr. | (Prereq: 838-105; see Note 2) |
| OR | | | |
| 809-166 Intro to Ethics: Theory & App. | | 3 cr. | (Prereq: 838-105; see Note 2) |
| 809-198 Psychology, Intro to | | 3 cr. | (Prereq: 838-105; see Note 2) |
| 809-196 Intro to Sociology | | 3 cr. | (Prereq: 838-105; see Note 2) |

Take 2 elective credits. Any associate degree course may be taken as an elective.

## Notes
1. Students will be admitted to the program and receive financial aid through MATC. To apply, visit https://www.matc.edu/apply/index.cfm.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a Gateway advisor for details.
3. Students will complete placement testing at Gateway Technical College prior to enrolling in the above courses. For questions or to establish an appointment, please call 1-800-247-7122.
4. Students completing the shared program will receive their degree from Milwaukee Area Technical College.
5. Graduates of Gateway's Dental Assistant program will be given preference for admission.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.
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# Ophthalmic Medical Assistant (31-516-4)
## Shared Program with LTC
Technical Diploma
**Effective 2019/2020**

## Ophthalmic Medical Assistant (31-516-4)
*This is a shared program with Lakeshore Technical College (LTC).*

The Ophthalmic Medical Assistant program prepares students for employment in ophthalmic and optometric practices and in retail optical settings. Students apply technical skills to perform pre-screening and specialty testing, assist with dispensing glasses and contact lenses, and perform office management duties including maintaining patient information and billing and insurance processes.

## Program Requirements
Consult the LTC website for program and admission requirements at
   https://gotoltc.edu/academics/programs-of-study/ophthalmic-assistant-program/index.html.

## Graduation Requirements
Consult the LTC website for graduation requirements at https://gotoltc.edu/index.html.

## Program Learning Outcomes
Graduates will be able to:
1. Apply technical skills to perform eye care prescreening and specialty testing
2. procedures on patients accurately and efficiently.
3. Apply technical skills to educate and assist patients with glasses and/or contact lenses
4. to meet their eye health and visual needs.
5. Perform business office procedures such as maintaining appointment schedules,
6. maintaining patient records, processing insurance reimbursement, and billing patients.
7. Demonstrate professional ethics, honesty, and respect when dealing with doctors,
8. patients, and co-workers.
9. Communicate clearly and professionally in both written and oral formats.

## Gateway Course Requirements
Students choosing to start the Ophthalmic Medical Assistant program at Gateway are able to complete up to 10 credits toward the degree at LTC. All courses will satisfy program requirements in the Ophthalmic Medical Assistant program under the shared agreement as long as minimum requirements have been met. Consult the LTC website for requirements at https://gotoltc.edu/academics/programs-of-study/ophthalmic-assistant-program/index.html.

| | | |
|---|---|---|
| 501-101 Medical Terminology | 3 cr. | (Prereq: 838-105; see Note 2) |
| 530-182 Human Dis. for Health Prof. | 3 cr. | (Prereq: 501-101; Advisor Consent) |
| OR | | |
| 509-302 Human Body Health and Dis. | 3 cr. | (Prereq: 501-101) |
| 509-308 Pharm. For Allied Health | 2 cr. | (Prereq: 509-302) |
| 509-309 Med. Law, Ethics & Prof. | 2 cr. | |

## Notes
1. Students will be admitted to the program and receive financial aid through LTC. To apply, visit  https://gotoltc.edu/how-to-apply/index.html.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a Gateway advisor for details.
3. Students will complete placement testing at Gateway Technical College prior to enrolling in the above courses. For questions or to establish an appointment, please call 1-800-247-7122.
4. Students completing the shared program will receive their degree from LTC.

gtc.edu

**Respiratory Therapist (Shared program with MATC)**

## Respiratory Therapist (10-515-1)

*This is a shared program with Milwaukee Area Technical College (MATC).*

Learn to evaluate, treat, and care for patients with lung and heart disease. Clinical experiences are gained in a variety of healthcare settings. Program graduates are qualified to sit for the National Board for Respiratory Care (NBRC) examinations. This program is fully accredited by the Commission on Accreditation for Respiratory Care (CoARC) through 2022. Successful completion of the program and the NBRC Certified Respiratory Therapist examination provides an opportunity to obtain a license as a Respiratory Care Practitioner granted by the Wisconsin Department of Safety and Professional Services. NBRC examinations leading to qualification as a Registered Respiratory Therapist (RRT) as well as advanced credentials in pulmonary function (CPFT and RPFT) and perinatal/pediatrics are available. Respiratory therapists administer treatments, recommend therapeutic interventions, operate life support systems, perform CPR and airway management, provide patient education and conduct cardiopulmonary testing. For additional career information, visit www.aarc.org.

### Program Requirements
Consult the MATC website for program and admission requirements at https://www.matc.edu/student/offerings/2018-2019/degrees/respiratory_therapist.cfm.

### Graduation Requirements
Consult the MATC website for graduation requirements at http://www.matc.edu/.

### Program Learning Outcomes
Graduates will be able to:
1. Apply respiratory therapy concepts to patient care situations.
2. Demonstrate technical proficiency required to fulfill the role of a Respiratory Therapist.
3. Practice respiratory therapy according to established professional and ethical standards

### Gateway Course Requirements
Students choosing to start the Respiratory Therapist program at Gateway are able to complete up to 28 credits toward the degree at MATC. All courses will satisfy program requirements in the Respiratory Therapist program under the shared agreement as long as minimum requirements have been met. Consult the MATC website for requirements at https://www.matc.edu/student/offerings/2018-2019/degrees/respiratory_therapist.cfm.

| Course | Credits | Prerequisite |
|---|---|---|
| 501-101 Medical Terminology | 3 cr. | (Prereq: 838-105; see Note 2) |
| 801-136 English Composition 1 | 3 cr. | (Prereq: 831-103; see Note 2) |
| 801-196 Oral/Interpersonal Comm. | 3 cr. | |
| 801-198 Speech | 3 cr. | |
| 806-177 Gen. Anatomy & Phys. | 4 cr. | |
| 806-197 Microbiology | 4 cr. | (Prereq: 806-177 OR 806-105) |
| 809-195 Economics | 3 cr. | (Prereq: 838-105; see Note 2) |
| 809-198 Psychology, Intro to | 3 cr. | (Prereq: 838-105; see Note 2) |

Take 2 elective credits. Any associate degree course may be taken as an elective.

### Notes
1. Students will be admitted to the program and receive financial aid through MATC. To apply, visit https://www.matc.edu/apply/index.cfm.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a Gateway advisor for details.
3. Students will complete placement testing at Gateway Technical College prior to enrolling in the above courses. For questions or to establish an appointment, please call 1-800-247-7122.
4. Students completing the shared program will receive their degree from Milwaukee Area Technical College.

In addition to the state-approved Associate Degrees, Technical Diplomas and Advanced Technical Certificates that are part of the degree-granting programs at Gateway, a variety of Gateway Certificates are also offered. The courses required to complete these certificates are selected from various degree programs to meet specific and unique occupational needs. Students must complete a certificate program with a minimum of a 2.0 Program GPA. The following list represents those programs which will be provided by Gateway during the 2019-2020 academic year. Additional information about the certificates can be found at **gtc.edu/certificates.**

## Accounting – Elkhorn-Kenosha Campuses & Online
Small Business Accounting (90-101-1) ...............................................................19 Credits
Personal Financial Planning (90-101-2) (Online Only) ........................................10 Credits
Sustainability Accounting (90-101-3) (Online Only).............................................10 Credits
Advanced Income Tax Accounting (90-101-4) (Online Only) ...............................14 Credits
Tax Preparer Assistant (61-101-2)......................................................................11 Credits
Payroll Assistant (61-101-3) ..............................................................................15 Credits

## Administrative Professional – Kenosha-Racine Campuses & Online
Computer Applications (90-106-5) (Also available in Elkhorn) ............................. 9 Credits
Office Skills Intermediate (90-106-7) ..................................................................12 Credits
Office Skills Advanced (90-106-8).......................................................................15 Credits
Customer Service (90-106-10)..............................................................................7 Credits
Business Professional Essentials (61-106-1) ......................................................15 Credits
Receptionist (61-106-3) ......................................................................................12 Credits

## Advanced Manufacturing Technology – iMET Center-Lakeview Center & Elkhorn Campus
Introductory Industry 4.0 (90-664-1) ................................................................... 8 Credits

## Automotive Technology – Horizon Center
Automotive Under Car Technician (61-602-1).......................................................11 Credits

## Business Management – Elkhorn-Kenosha-Racine Campuses & Online
Leadership Management (90-102-1).....................................................................15 Credits
General Management (90-102-2)..........................................................................13 Credits

## Civil Engineering Technology – Highway Technology – iMET Center & Elkhorn Campus
Material Testing Inspector (61-607-1) ...................................................................9 Credits
Drone Mapping (90-607-1)....................................................................................6 Credits
Geographical Information Systems (90-607-2) ...................................................... 6 Credits

## CNC Production Technician – Elkhorn Campus & iMET Center
CNC Operator (61-444-3)....................................................................................13 Credits
Quality Control Technician (90-444-2) ..................................................................9 Credits

## Cosmetology – Racine Campus
Nail Technician (90-502-1).................................................................................. 9 Credits
Retail Beauty Advisor (61-502-1) ........................................................................ 4 Credits
Wisconsin Cosmetology License Bridge (90-502-2)..............................................3 Credits

## Criminal Justice Studies– Kenosha & Racine Campuses
Security Professional (61-504-6)........................................................................12 Credits

## Culinary Arts – Elkhorn & Racine Campuses
Baking and Pastry Arts (61-316-3) ......................................................................11 Credits
Basic Cooking Skills (61-316-4) ..........................................................................13 Credits

## Developmental Education – Kenosha Campus
Intensive English Program: Beginning Level (90-861-3) .......................................20 Credits
Intensive English Program: Intermediate Level (90-861-2)....................................20 Credits
Intensive English Program: Advanced Level (90-861-4) ........................................20 Credits

## Diesel Equipment Mechanic – Horizon Center
Industrial/Mobile Hydraulic Mechanic (90-412-1) (Kenosha Only) .........................14 Credits
Diesel Mechanic's Assistant (61-412-1)...............................................................13 Credits

## Early Childhood Education – Racine Campus
Pre-School Credential (90-307-6)........................................................................18 Credits
Inclusion Credential (90-307-5)...........................................................................12 Credits
Administrator's Credential (90-307-7) ..................................................................18 Credits
Infant/Toddler Credential (90-307-2)................................................................... 12 Credits
Child Care Teacher (61-307-5) ...........................................................................18 Credits
Child Care Basics (61-307-6) ...............................................................................6 Credits

## Electrical Engineering Technology – Elkhorn-Kenosha-Racine Campuses-iMET Center
Technical Education Pre-Licensure (90-662-1)..................................................... 18 Credits
Biomedical Instrumentation and Safety (90-662-2) (iMET Only)............................ 7 Credits

## Electromechanical Maintenance Technician – Elkhorn Campus & Lakeview Center
Mechanical Maintenance Technician (61-620-3).................................................. 11 Credits
Integrated Manufacturing (90-620-1) (Elkhorn Only).............................................18 Credits
Fanuc Robot Certification (90-620-2)................................................................... 3 Credits

## Foundations of Teacher Education – Online
Intro to Paraeducator Careers (61-522-1)...................................... 12 Credits

## General Studies – World Languages – Kenosha & Racine Campuses
Spanish Proficiency (90-801-1) ................................................ 16 Credits
Spanish Proficiency for Healthcare Providers (90-801-2) .....................15 Credits
Spanish Proficiency for Law Enforcement (90-801-3)........................... 15 Credits

## Graphic Communications – Elkhorn-Racine Campuses & Online
Desktop Publishing (90-204-1) (Not online) ..................................14 Credits
Digital Photography (90-204-6) ..............................................12 Credits

## Greenhouse Operations – Kenosha Campus
Professional Floral Design (90-001-4).........................................12 Credits
Permaculture Design (90-001-7)................................................3 Credits
Environmental Studies (90-001-8)..............................................3 Credits

## Health and Human Services – Kenosha & Racine Campuses
Aspects of Disabilities (90-520-1) (Racine Only) ............................. 18 Credits
Gerontology (90-520-2) (Racine Only) .........................................18 Credits
Child Welfare (90-520-3) (Racine Only).......................................18 Credits
Alcohol & Other Drug Abuse (AODA) (90-550-1) (Racine Only)....................24 Credits

## Hospitality Management – Racine Campus
Hospitality Essentials (61-109-1) ............................................9 Credits

## Information Technology – Elkhorn & Racine Campuses
Programmer/Analyst - AS/400 (90-107-2) (Racine Only) .........................10 Credits
CCNA (90-150-1)............................................................... 10 Credits
CCNA Security (90-150-2)......................................................10 Credits
CCNA Voice (90-150-3) ........................................................10 Credits
SharePoint Developer (90-152-3) (Racine Only) ...............................19 Credits
Game Programming (90-152-5) (Racine Only) ...................................16 Credits

## Interior Design – Kenosha Campus
Fundamentals of Interior Design (90-304-1) ...................................9 Credits
History of Design and the Decorative Arts (90-304-2) .........................9 Credits
Introduction to the Visual Language of Design (90-304-3) .....................9 Credits
Sustainable Design (90-304-4) ...............................................10 Credits
Technology for Interior Design (90-304-5) ...................................12 Credits

## Leadership Development – Online
Human Resources Management (90-196-10)........................................10 Credits
Project Manager (90-196-11) ..................................................9 Credits
Leadership Essentials (61-196-4).............................................. 10 Credits
Technical Supervisor (90-196-13).............................................10 Credits

## Marketing – Elkhorn-Kenosha-Racine Campuses & Online
Marketing/Sales (90-104-2)....................................................12 Credits
Sports and Event Marketing (90-104-7)........................................15 Credits

## Nursing-Associate Degree – Kenosha Campus & Burlington Center
Gerontological and Rehabilitative Nursing Care (90-543-5)..................... 9 Credits
Medication Assistant (90-543-2) (Elkhorn/Kenosha) ...........................3 Credits
RN Refresher I – Theory/Lab (90-543-3) ......................................3 Credits
RN Refresher II – Clinical (90-543-4)........................................3 Credits

## Professional Communications – Racine Campus & Online
Professional Communications Specialization (90-699-1) .......................12 Credits
Advanced Professional Communications (90-699-2) .............................24 Credits
Copywriter (90-699-3)........................................................15 Credits
Grant Writer (90-699-6)......................................................12 Credits
Technical Journalist (90-699-7) .............................................21 Credits
Technical Writer (90-699-8)..................................................15 Credits
Web Content Writer (90-699-9) ...............................................15 Credits

## Small Business Entrepreneurship – Elkhorn-Racine Campuses & Online
Entrepreneurship (90-145-1)..................................................9 Credits

## Welding – Elkhorn & Racine Campuses
Advanced Gas Metal Arc Welding (90-442-1) ...................................8 Credits

# General Studies Transfer Certificates

## General Studies Transfer Agreement with UW Parkside
General Studies Transfer Certificate (90-800-2z)..............................30 Credits

## General Studies Transfer Agreement with Mount Mary College
Mount Mary General Studies Transfer Certificate (90-800-3)...................30 Credits

The apprenticeship program is part of the Wisconsin educational system which prepares people for skilled occupations. Gateway Technical College, in cooperation with employers, Joint Apprenticeship Committees, and the Wisconsin Department of Workforce Development—Bureau of Apprenticeship Standards, provides the related instruction for persons who are under contract as apprentices in Kenosha, Racine, and Walworth counties under the Wisconsin Apprenticeship Law.

The following list contains apprenticeship-related instruction currently being offered at Gateway.

## Service Trades

### Barber

2 years – 2,000 hours training and instruction

Barbers cut, trim, shampoo, style hair, provide hair and scalp treatments, shave male customers, and give facial massages. Barbers keep their work area and tools clean and sanitized.

### Cosmetologist

2 years – 4,000 hours training and instruction

Cosmetologists cut, trim, shampoo, style, straighten, permanent wave, and color hair, as well as give manicures and scalp and facial treatments. They advise patrons how to care for their hair. Cosmetologists keep their work area and implements clean and sanitized.

### Wastewater Treatment

3 years – 6,000 hours training and instruction

Wastewater treatment plant operators (WWTPOs) monitor, operate, and adjust a wide variety of systems used in the treatment of wastewater. They control plant processes to ensure the plant operates effectively. They routinely monitor laboratory data, charts, and computer control systems, which indicate performance status of a wide variety of biological nutrient and chemical removal.

## Construction Trades

### Construction Electrical

5 years- 8,680 hours training and instruction

An electrician reads blueprints and installs materials for transmission of electricity to equipment for lighting, heating, and cooling. They may repair existing wiring and fixtures or inspect installations for conformity of electrical, fire, and safety codes.

### HVAC

5 years – 8,400 hours training and instruction

HVAC technicians install, maintain, and repair heating, ventilation, and air-conditioning systems. HVAC technicians must be able to understand the operating principles of different systems such as oil-fired furnaces and commercial refrigerators and to interpret written specifications.

### Plumbing

5 years – 8,000 hours training and instruction

Plumbers install and repair pipes for water, gas, sewage, and drainage systems. They install sanitary facilities such as toilets, tubs, bathroom fixtures, showers, kitchen fixtures, drinking fountains, and laundry equipment to code using hand and power tools as well as welding equipment.

## Industrial Trades

### Computer Numeric Control (CNC) Machinist

4 years- 8,000 hours training and instruction

Sets up and operates computer numerically controlled machines to produce metal into intricate parts and instruments

### Industrial Electrician

4 years – 8,000 hours training and instruction

Maintains, repairs, installs, and inspects electrical equipment and lighting systems.

### Industrial Manufacturing Technician

18 months– 3,264 hours training and instruction

Operates and sets up production equipment, interprets technical information and demonstrates continuous process improvement.

### Machine Repair

4 years– 8,896 hours training and instruction

Operates, repairs, and maintains machinery and equipment in an industrial environment.

### Maintenance Mechanic/Millwright

4 years – 8,000 hours training and instruction

Uses blueprints to install or move machinery and equipment. Repairs equipment or facilities through methods such as pipefitting, pneumatics, welding, machining, and hydraulics.

### Tool and Die/Mold Maker

5 years– 10,000 hours training and instruction

Constructs metal dies through stamping and forging processes and repairs dies, cutting tools, jigs, fixtures, gauges and hand tools.

### Maintenance Technician

5 years – 10,400 hours training and instruction

Works on mechanical and electrical equipment and machines in industrial settings. Mechanical includes installing equipment, repairing and replacing units, maintaining equipment and using machines. Electrical includes working with electrical drawings, troubleshooting electrical motors, AC and DC drives and PLCs (programmable logic controllers) along with solid state devices.

### Welding/Fabrication

4 years – 8,400 hours training and instruction

Welds, fabricates, prepares lay out, aligns and fits parts of structural metal products according to blueprints and job orders or for structural repairs.

## Applying for an Apprenticeship

Apprenticeship selection is done by the individual employers or the Joint Apprenticeship Committee (JAC). Persons should apply with the employer or appropriate JAC (union).

### Selection Standards

Most employers prefer candidates for apprenticeships who are high school graduates or the equivalent and have the mechanical aptitude required to perform the job. Testing requirements vary depending on the trade area the applicant is interested in seeking.

### Related Instruction

Apprentices must attend related instruction for a minimum number of hours, which varies depending on the trade area. Gateway provides the required classroom instruction in subjects related to the trade.

### Contact Information

Apprenticeship Department
Gateway Technical College - SC Johnson iMET Center
2320 Renaissance Blvd., Room 211
Sturtevant, WI 53177-1763
262.564.2954
apprenticeship@gtc.edu

**gtc.edu/apprenticeship**

**001-102**
**Plant Pests and Control**          3.00

The identification and control of insects, diseases, and weeds of importance to the commercial horticulturist will be covered. The course emphasizes an integrated pest management approach in diagnosing pest problems and identifying the combination of biological, cultural, physical, and chemical control methods to be used. Rules and regulations regarding environmental and personal pesticide safety are taught. Students have the option to become state certified pesticide operators.

**001-103**
**Permaculture Design Certification**   3.00

Permaculture draws from several disciplines including organic farming, agroforestry, integrated farming, sustainable community development, alternative/natural building and applied ecology. This course will teach participants techniques to reduce dependence on fossil fuels and increase the long term sustainability of their homes and communities. Integrating organic food production into urban landscapes is a major focus of the course. Students will receive a Permaculture Design Certificate upon successful completion of the course and a design project.

**001-104**
**Greenhouse Systems**          3.00

Identify greenhouse structural components and environemntal controls such as heating, cooling and lighting systems. Plan production cycles, describe how new plants are selected from plant breeders and obtained from suppliers. Assemble a hydroponic system from start to finish. Learn to identify, propagate and care for foliage plants, bulbs and flowering greenhouse crops. Participate in field trips to greenhouse operations.

**001-105**
**Dendrology and Silvics**          3.00

Students explore how trees interact with their environment and with one another, at different spatial and temporal scales. Concepts developed in botany and ecology are further examined with an emphasis on woody plant classification and the life history and characteristics of forest trees. Skills acquired through this course are tree identification and the ability to identify where different tree species thrive. PREREQUISITES: 001-118 - Landscape Plant Identification 801-136 - English Composition 1 804-135 - Quantitative Reasoning

**001-107**
**Plant Biology for Horticulture**    3.00

Study of structure and function of plants and how they are affected by light, water, temperature and nutrient availability. Labs include hands-on experience in potting, propagation, construction of dish gardens and terrariums.

**001-108**
**Business of Urban Farming**       3.00

This class will provide the skills to start and operate a fresh market vegetable business. Growing food is the first step, but we will teach you how to make smart decisions about marketing, pricing, capitalization and labor. You will become aware of current opportunities in urban farming, explore objectives, assess personal and financial resources, conduct preliminary market research, and develop a business plan.

We will discuss market gardening start-up, weekly sales targets, yield and pricing, organic certification, organic marketing and labeling, and analyze the value of CSA's, direct marketing and farmers' markets.

**001-109**
**Urban Farming and Market Gardening**                     3.00

Sustainable, intensive urban farming forms the important basis for long-term profitability because it maintains quality soils that can provide long-term stable yields. Our hands-on training in biointensive organic growing methods will help you advance from gardening novice to professional urban farmer. Learn about fertility management, greenhouse use, season extension, pest management, equipment needs, planning and budgeting. The course will focus on building and managing healthy soil and understanding how soils, plants, animals, and people form a dynamic living organism. We will use this knowledge to explore the methods to grow organic, nutrient dense produce.

**001-110**
**Tree Growth and Development**      2.00

Students examine the biology of tree systems and explore tree growth and development. Compartmentalization of wounds and adaptation of trees to their surrounding and environment are emphasized. Through participation in this course, students will acquire a framework for arboriculture. PREREQUISITES: 001-118 - Landscape Plant Identification COREQUISITES: 001-185 - Introduction to Horticulture 804-135 - Quantitative Reasoning 801-136 - English Composition 1

**001-111**
**Horticulture Practicum**          3.00

Work independently, or in small groups, with instructor and staff to gain in depth knowledge and experience in one of five program specialty areas; greenhouse growing , floral retailing and events, trial and display gardens, urban farm. Can also be used for internship with horticulture employer. PREREQUISITES: 001-147 - Soils and Plant Nutrition with a minimum grade of C or TR COREQUISITES: 001-151 - Greenhouse Crops

**001-113**
**Ornamental Plant Health Care**    3.00

This course focuses on classification and identification of ornamental plant insects, diseases, and injury caused by non-living agents. Students will examine the methods by which living organisms and non-living environmental factors cause plant damage. Skills in diagnostics, damage assessment, sample preparation, and control strategies are acquired. PREREQUISITES: 001-105 - Dendrology and Silvics 001-188 - Integrated Pest Management 001-188 - Integrated Pest Management

**001-115**
**Tree Care Capstone**          1.00

In this course, students integrate occupational skills with professional practice. Students examine tree care operations, communications, and planning by engaging in opportunities to report work performed, manage resources, and apply communication and interpersonal skills to a variety of occupational situations. Upon completion of the course, students will be able to provide clients with ethical and appropriate arboricultural scenarios. PREREQUISITES: 001-157 - Tree Care Practicum 2 with a minimum grade of C

**001-117**
**Landscape Design/Advanced**     **3.00**
Advanced study of landscaping designed to fine-tune landscape drawing techniques. Course focuses on landscape construction methods, Japanese-style design principles, designing for energy conservation and how to attract wildlife. Labs include drawing plans and blueprinting. PREREQUISITES: 001-140 - Landscape Design/Introduction

**001-118**
**Landscape Plant Identification**     **2.00**
This course introduces students to woody shrub and tree identification of species commonly used in Wisconsin commercial and residential landscapes. Students develop techniques and basic skills necessary for plant identification and learn the cultural practices required to grow healthy woody plants.

**001-120**
**Landscaping/Interior**     **3.00**
Studies choosing plants to create pleasing and professional interior displays. Includes diagnosing and solving plant problems, drawing plans, and writing maintenance contracts. Labs provide hands-on experience and field trips to exemplary interior landscapes.

**001-121**
**Tree Crew Practicum 1**     **2.00**
Students acquire the basic skills and techniques employed by arborist who work on tree crews. Working aloft is limited in this course. Emphasis is placed on student development as a member of a working crew, acquiring skills in tree pruning, setting throwlines, ground work, and work site management. This course emphasizes the development of skills expected of Plant Health Care Technicians working in support of arboricultural tree care crews. PREREQUISITES: 001-124 - Fundamentals of Aerial Tree Work with a minimum grade of C

**001-122**
**Horticulture Business Operations**     **3.00**
Simulated operation of horticulture industries utilizing principles of marketing, economics and office management. Includes hands-on practice on computers used in each branch of the horticulture industry. Field trips and practice work are involved.

**001-123**
**Tree Crew Practicum Capstone**     **1.00**
Students integrate the skills learned through prior tree crew practicum courses with the fundamental framework developed in the arboricultural/urban forestry courses to explore methods to provide clientel with ethical and appropriate arboricultural recommendations. Students will also explore how to support a climber in an aerial rescue scenario and emergency protocol. Working aloft is limited in this course. PREREQUISITES: 001-187 - Tree Crew Practicum 2 with a minimum grade of C

**001-124**
**Fundamentals of Aerial Tree Work**     **2.00**
Students examine the basic safety requirements, equipment, and techniques employed by arborist who work aloft. Using a rope-and-harness and an aerial lift, students develop the skills to conduct aerial arboriculture (tree care). An emphasis is placed on recognizing electrical hazards, tying knots, tree ascension, limb walking, and maneuvering through the tree canopy. Students who choose to remain on the ground learn the skills to assist a climber working aloft.

**001-125**
**Aerial Tree Work Practicum 1**     **2.00**
Students use the skills attained in Fundamentals of Aerial Tree Work to develop the method and techniques utilized by arborist who work aloft. Students will identify tree pruning needs and create a work plan to ascend the tree and accomplish the goals set by their evaluation. This course will introduce students to ground and work site management, aerial rescue, and electrical hazard awareness. Learners will perform all tasks to industry standards. PREREQUISITES: 001-124 - Fundamentals of Aerial Tree Work with a minimum grade of C

**001-126**
**Aerial Tree Work Practicum 2**     **2.00**
Students examine the theories behind technical rigging and acquire the skills for technical aerial tree removal in an urban setting. The course approaches the concept from a beginner level, building on the climbing and pruning abilities gained in prior aerial courses. Additional skills are acquired in tree cabling and bracing, single rope technique, and electrical hazard awareness. PREREQUISITES: 001-125 - Aerial Tree Work Practicum 1 with a minimum grade of C

**001-127**
**Aerial Tree Work Practicum Capstone**     **1.00**
Students integrate the skills learned through prior aerial tree work practicum courses with the fundamental framework developed in the arboricultural/urban forestry courses to explore methods to provide clientel with ethical and appropriate arboricultural recommendations. Students will also explore aerial rescue procedures and emergency protocol. PREREQUISITES: 001-126 - Aerial Tree Work Practicum 2 with a minimum grade of C

**001-128**
**Horticulture Marketing**     **3.00**
Learn how plants and flowers are marketed locally and internationally. This class offers professional marketing techniques for garden centers, greenhouses and floral shops. Students visit garden centers, flower shops, wholesale suppliers and trade markets to identify trends and meet with managers. Students gain practical experience organizing a plant promotion including identifying the customer, purchasing and pricing plants, advertising.

**001-129**
**Pesticide Applicator Certification**     **1.00**
Learn how to apply pesticides safely and legally. This class prepares students to take the Wisconsin State pesticide applicator exam with the certification exam given during class. Anyone applying chemicals to someone else's property is required to obtain this certification.

**001-130**
**Landscape Plants Trees/Shrubs Deciduous**     **3.00**
Study of deciduous trees, shrubs, and vines grown for landscape use in residential and commercial settings. Examines environmental requirements, dormant characteristics, and landscape applications.

Labs involve on-site identification of plant material.

**001-132**
**Landscape Plants Evergreen** 3.00

Continued emphasis on identification and evaluation of landscape plants with emphasis on evergreen landscape materials.

**001-133**
**Chainsaw Safety and Operation** 2.00

Students acquire the skills to safely operate a chainsaw in the arboricultural industry. Emphasis is placed on identifying the importance and adopting the methods of personal protective equipment, safe chainsaw operation, routine maintenance, and common chainsaw cutting techniques in accordance with best management practices and current industry standards. Students will develop chainsaw skills in a variety of field exercises that focus on techniques used in tree pruning and removal, including the by-pass cut, open face notching, bore cutting, and wedging.

**001-136**
**Landscape Management** 3.00

Maintenance of industrial, public, institutional, and private grounds. Also covers operation and management of an ornamental nursery. Labs include pruning, balling and burlapping, procedures for preventing winter injury, and field trips.

**001-137**
**Greenhouse Business Planning** 3.00

Evaluate annual and perennial flowers, cut flowers and vegetable plants in display gardens from international plan breeders.

Determine production, scheduling and market for greenhouse crops. Discuss greenhouse and hoophouse construction, operation and mechanicals. Identify the role of hoophouses in providing local food through season extension. Identify greenhouse plants and foliage. Attend greenhouse conference and participate in field trips to growing operations and suppliers.

**001-138**
**Landscape and Turf Management Fall** 2.00

Students acquire skills for the planning and installation of living and non-living landscape materials and turf through the exploration of landscape and turf management during the fall season. Both estimating and time management are emphasized in this course.
PREREQUISITES: 001-118 - Landscape Plant Identification and 001-173 - Urban Tree Maintenance with a minimum grade of C

**001-139**
**Landscape and Turf Management Spring** 2.00

Students acquire skills for the planning and installation of living and non-living landscape materials and turf through the exploration of landscape and turf management during the spring season. Both estimating and time management are emphasized in this course.
PREREQUISITES: 001-118 - Landscape Plant Identification and 001-173 - Urban Tree Maintenance with a minimum grade of C

**001-140**
**Landscape Design/Introduction** 3.00

Covers how to plan and draw a professional landscape design. Focuses on selecting correct plant material, proper placement, and uses of landscape construction elements. Practical design and drawing experience provided in lab.

**001-141**
**Soils and Plant Nutrition** 3.00

Covers physical, chemical and biological properties of soils/media. Includes soil conservation practices and composting. Labs involve soil testing and soil improvement.

**001-142**
**Vegetable Science** 3.00

Students will study methods of vegetable gardening and become familiar with basic annual and perennial vegetables, herbs and edible flowers. Organic growing methods, composting, pest and disease control, and self-sustaining gardening methods will be discussed in detail. Field trips to local market gardens will be included in the course.

**001-143**
**Herbaceous Plants** 3.00

Learn to identify and care for annual and perennial flowering plants. Visit local gardens and professional sites to study plants and view design styles. Graphic skills used to create professional flower bed designs is also taught. Hands on experience propagating annuals and perennials and working with tropical foliage in the Gateway greenhouse is also included.

**001-144**
**Floral Design I/Commercial** 3.00

The basic principles, elements, and mechanics of floral design are practiced. Identification, care and handling of flowers and foliage will be involved. Includes hands-on designing of corsages, primary arrangements and holiday arrangements.

**001-145**
**Floral Design II/Commercial** 3.00

Hands-on use of fresh flowers, fresh foliages, dried materials, silks and fruit in the more advanced floral designs. Emphasis will also be given to today's color theory as well as development of floral creativity.
PREREQUISITES: 001-144 - Floral Design I/Commercial

**001-146**
**Sustainable Landscape** 1.00

Following guidelines set forth by the national Sustainable Site's Initiative students will learn how to improve the sustainability of urban landscapes. Identifying soil conditions, capturing storm water, using native plants, composting, waste and energy management are concepts learned in this class. Students have the opportunity to analyze their own property to find ways to improve sustainability while reducing chemical inputs and maintenance needs.

**001-147**
**Soils and Plant Nutrition** 1.00

Students will study physical, chemical and biological properties of soils. Soil conservation practices, plant nutrition and

composting will be discussed in detail. Labs involve soil testing and soil improvement.

**001-148**
**Plant Pests and Beneficials** 1.00

Learn to identify the different lifecycle stages of plant pests in the greenhouse and landscape and how to control them using cultural, physical and biological control methods. Learn about beneficial insects and how to use predators, parasites and pathogens to control insects and diseases of plants.

**001-149**
**Horticulture Events** 3.00

Educational seminars and workshops, celebrations, tours and travel are increasingly important to garden centers, botanic gardens and resorts. Learn to plan and organize horticulture and floral events from the initial planning stages through set up to break down and billing. PREREQUISITES: 001-143 - Herbaceous Plants or 001-144 - Floral Design I/Commercial or course 001-151 - Greenhouse Crops

**001-150**
**Floristry** 3.00

Practice skills learned in Floral Design 1 and expand knowledge to include: flower care and handling, visual merchandising and display, pricing floral products and services, customer service and sales, employee relations, specialty cut flowers and using local flowers, the wholesale and international floral trade. PREREQUISITES: 001-144 - Floral Design I/Commercial with a minimum grade of C or TR

**001-151**
**Greenhouse Crops** 3.00

Focuses on growing cut flowers, potted plants and foliage plants in a greenhouse. Provides practical experience in growing/maintaining crops using equipment, and solving problems. Includes field trips to commercial greenhouse operations. PREREQUISITES: 801-136 - English Composition 1 and 804-135 - Quantitative Reasoning minimum grade C

**001-152**
**Perennials** 3.00

This course covers the identification, growing and use of common herbaceous perennial plants in the landscape. Propagation, scheduling, and problem identification/solutions will also be taught.

**001-153**
**Fruit Science** 3.00

Students will study methods of fruit growing and become familiar with basic cultivated tree fruits, small fruits, and native fruits and nuts. Organic growing methods, composting, pest and disease control, and self sustaining growing methods will be discussed in detail. Field trips to orchards and market fruit gardens will be included in the course.

**001-154**
**Alternative Growing Methods** 3.00

Students will study emerging growing methods that are "outside the box". These include vertical wall gardening, green roots, hydroponics, aquaponics, and other innovative growing techniques.

**001-156**
**Tree Care Practicum 1** 2.00

In this course, students examine ground and work site management, aerial rescue, and electrical hazard awareness. Building on acquired tree work skills, students develop occupational skills required by professional arborists. Students identify tree pruning needs, create a work plan to ascend the tree, and achieve the established goals. Students may complete the requirements of the course from aloft or from the ground. Upon completion of the course, students will be prepared to apply [basic] tree care methods, techniques, and behaviors of professional arborists. PREREQUISITES: 001-124 - Fundamentals of Aerial Tree Work, 001-133 - Chainsaw Safety and Operation, 001-173 - Urban Tree Maintenance

**001-157**
**Tree Care Practicum 2** 2.00

In this course, students build on tree work skills acquired in Tree Care Practicum 1. In an urban setting, students practice supporting and conducting technical aerial tree removal. Students identify: methods of safe tree removal, aerial felling of branches, placement and use of rigging equipment, and chainsaw use in a tree. Safe and effective rigging operation techniques are emphasized. Methods to increase crew efficiency and support aerial crew members are presented and practiced. Upon completion of the course, students will be prepared to support and conduct aerial tree removal. PREREQUISITES: 001-156 - Tree Care Practicum 1 with a minimum grade C

**001-173**
**Urban Tree Maintenance** 2.00

Students explore and develop skills in the art and science of tree pruning. Young tree

training and mature tree maintenance are emphasized. Learners use tree pruning techniques and follow safety requirements set by current industry standards.

**001-177**
**Floral Design III** 3.00

This course is designed for the advanced floral designer. You will explore the most advanced techniques in weddings, sympathy, and contemporary designs. PREREQUISITES: 001-145 - Floral Design II/Commercial

**001-178**
**Fruit and Vegetable Science** 3.00

Students will study methods of vegetable and fruit gardening and become familiar with basic vegetables, tree fruits, and small fruits. Organic growing methods, composting, pest and disease control, and self-sustaining gardening methods will be discussed in detail. Field trips to market gardens and orchards will be central to the course.

**001-180**
**Horticulture Portfolio** 1.00

This capstone course will provide horticulture students the opportunity to pull together portfolio elements created in several classes into a cohesive professional portfolio for use when starting the career search. The portfolio will include samples of work, letters of reference, resume, horticultural resources and other pertinent career search and employment information, which can be used during employment interviews. Students will develop a high-quality professional portfolio as the final project. PREREQUISITES: 001-

111 - Horticulture Practicum 001-128 - Horticulture Marketing 001-130 - Landscape Plants Trees/Shrubs Deciduous 001-143 - Herbaceous Plants 001-147 - Soils and Plant Nutrition 001-151 - Greenhouse Crops 801-136 - English Composition 1 804-135 - Quantitative Reasoning minimum grade C

**001-181**
**Advanced Studies - Plant Biology    1.00**
Students examine plant biology with emphasis on growth, reproduction, and cellular morphological and physiological processes. PREREQUISITES: 806-184 - Plant Biology with a minimum grade of C

**001-182**
**Applied Landscape Architecture    2.00**
Students examine the process of landscape design and acquire a structured approach to shaping outdoor settings for human use and enjoyment. Skills in graphic techniques are developed to communicate ideas in landscape plans through drawings and sketches. Students will develop experience in presenting landscape designs to large and small groups. PREREQUISITES: 001-118 - Landscape Plant Identification with minimum grade of C

**001-183**
**Applied Urban Forestry    2.00**
Students acquire skills in techniques, tools, and pieces of equipment used to manage trees and tree populations that make up the urban forest. Students will explore tree inventory practices and pruning cycles used to maintain a city tree population. Students will also identify and examine the necessity of tree species diversity within urban environments. This course further

explores arboricultural career options available from commercial, municipal, and utility employers. PREREQUISITES: 001-105 - Dendrology and Silvics 001-110 - Tree Growth and Development 001-173 - Urban Tree Maintenance

**001-184**
**Ecological Basis for Natural Res Mgmt    3.00**
Students explore the basic principles of ecology and examine their application in the management of natural resources. Exploration of the scientific method and interactions between and amongst species are emphasized. Students will acquire hands-on skills with measurements and data collection, research, preparation of technical reports, and use of computer models.

**001-185**
**Introduction to Horticulture    3.00**
Students examine the science and profession of horticulture, including its role and importance of throughout history, current trends, and careers. Learners will identify horticulture crops, crop use and interrelationships among the environment, plant growth, and plant development.

**001-186**
**People, Resources, and Sustainability    3.00**
Students examine the relationship between the human population and natural resources over time, and the effect of that relationship on sustainability. Global resources, environmental concerns, and the human dimensions of resource management are explored from biological, socioeconomic, and sustainability perspectives.

**001-187**
**Tree Crew Practicum 2    2.00**
Students develop skills behind technical rigging and acquire the skills to operate as ground support for technical aerial tree removal in an urban setting. Working aloft is limited in this course. Students identify methods to increase crew efficiency and support aerial crew members by setting lines, rigging, and assisting in developing technical tree removal plans. Identifying and operating various friction devises and running ropes during the process of lowering rigged limbs is emphasized. Additional skills are acquired in equipment organization for tree cabling and the installation of tree bracing. Electrical hazard awareness is examined. PREREQUISITES: 001-121 - Tree Crew Practicum 1 with a minimum grade of C

**001-188**
**Integrated Pest Management    2.00**
Students examine insect and pest identification, and are introduced to the diagnosis of tree health issues. The course explores how to manage tree health through invasive and non-invasive practices. Students will develop skills in chemical handling, mixing, calibration, and application via field exercises. Using the tools learned in the course, students will be prepared to take the Wisconsin Department of Agriculture and Consumer Protection's pesticide applicator exam which is proctored in the class.

**001-198**
**Introduction to Soil and Water Resources    3.00**
Students explore integrated concepts of soil and water resources at the landscape level. The course examines how physical, chemical, and biological interactions relate

to watershed processes, and how these interactions respond to land use and management. PREREQUISITES: 001-184 - Ecological Basis for Natural Res Mgmt 001-185 - Introduction to Horticulture 001-186 - People, Resources, and Sustainability

**001-199**
**Intro to Fish, Forestry, and Wildlife Res    3.00**
Students investigate the framework for fundamental natural resource disciplines by examining the principles and practices of fisheries, forest management, and wildlife management. This course also examines how goods can be produced and services provided while maintaining ecosystem integrity and functions.

**091-101**
**Animal Care and Management    3.00**
In this course, students explore basic nutrition, housing needs, and behavior of common domestic animals to develop skills that enable them to assess animal condition. Upon completion of this course, students will be able to obtain a thorough history, perform a physical exam, administer medications, collect samples, and use proper restraint techniques COREQUISITES: 806-105 - Principles of Animal Biology

**091-102**
**Veterinary Business Practices    3.00**
In this course, students develop practical workplace techniques for veterinary office procedures to develop customer service and veterinary team support skills. Upon completion of this course, students will be able to use veterinary software to manage records and financial applications, maximize

client interactions, and participate in day-to-day operations of a veterinary facility. COREQUISITES: 091-101 - Animal Care and Management

**091-103**
**Clinical Pathology I for Vet Sciences** **4.00**

In this course, students examine basic laboratory equipment and procedures, as well as features of common veterinary diseases, to acquire skills needed to perform various diagnostic tests. Upon completion of this course, students will be able to collect and process appropriate samples for hematology, blood chemistry, urinalysis, and parasitology, and correlate veterinary clinical pathology findings to clinical signs. PREREQUISITES: 091-101 - Animal Care and Management and 091-102 - Veterinary Business Practices with a minimum grade of C or TR Course 806-105 - Principles of Animal Biology with a minimum grade of B

**091-104**
**Clinical Pathology II for Vet Sciences** **4.00**

In this course, students examine additional laboratory procedures and other veterinary disease processes to establish understanding of appropriate methodology and recognition of accurate results. Upon completion of this course, students will be able to collect and process appropriate samples for mycology, cytology, serology, endocrinology, and coagulation and reproductive evaluations, and correlate veterinary clinical pathology findings to clinical signs. PREREQUISITES: 806-197 - Microbiology with a minimum grade of C or TR COREQUISITES: 091-106 - Surgical Procedures II for Vet Sciences

**091-105**
**Surgical Procedures I for Vet Sciences** **3.00**

In this course, students investigate surgical equipment and procedures to develop skills needed to assist with surgical care of animals. Upon completion of this course, students will be able to identify surgical instruments, develop sterile technique, maintain and operate surgical equipment, and assist with patient preparation, monitoring, and recovery. COREQUISITES: 091-103 - Clinical Pathology I for Vet Sciences

**091-106**
**Surgical Procedures II for Vet Sciences** **3.00**

In this course, students explore the veterinary technician's role in surgery to develop skills needed to manage veterinary patients in the pre-, intra-, and post-operative phases. Upon completion of this course, students will be able to anticipate needs of the surgeon, provide veterinary surgical assistance, manage wounds and incisions, and perform dental prophylaxis in dogs and cats. PREREQUISITES: 091-111 - Clinical Skills II for Vet Sciences and 091-108 - Veterinary Pharmacology

**091-107**
**Imaging for Veterinary Sciences** **3.00**

In this course, students explore veterinary imaging concepts and apply veterinary imaging techniques to use radiographic equipment and support diagnostic studies. Upon completion of this course, students will be able to properly position veterinary patients, produce diagnostic images, process exposed films, and maintain equipment. COREQUISITES: 091-103 - Clinical Pathology I for Vet Sciences

**091-108**
**Veterinary Pharmacology** **3.00**

In this course, students examine drugs, vaccines, and other substances used in veterinary medicine to establish a knowledge base of their therapeutic use, administration, and side effects. Upon completion of this course, students will be able to accurately calculate dosages, prepare dispensed medications, safely administer drugs, and recognize normal and abnormal responses to medications. PREREQUISITES: 834-109 - Pre-Algebra with a minimum grade of C or TR or achieve the required placement test score COREQUISITES: 091-110 - Clinical Skills I for Vet Sciences

**091-109**
**Lab Animals and Non-Traditional Pets** **2.00**

In this course, students explore characteristics, basic care, illness, and treatment of animals that may be encountered in research settings and/or kept as pets, to develop skills needed to participate in caring for these animals. Upon completion of this course, students will be able to properly restrain and examine mice, rats, rabbits, and birds, collect blood samples from rats and rabbits, and perform a necropsy on a laboratory animal. COREQUISITES: 091-104 - Clinical Pathology II for Vet Sciences

**091-110**
**Clinical Skills I for Vet Sciences** **2.00**

In this course, students assimilate skills in a clinical setting to develop proficiency in animal nursing techniques. Upon completion of this course, students will be able to perform routine veterinary clinic procedures such as venipuncture, urine collection, and subcutaneous injection. PREREQUISITES:

801-136 - English Composition 1 and 091-105 - Surgical Procedures I for Vet Sciences

**091-111**
**Clinical Skills II for Vet Sciences** **2.00**

In this course, students further assimilate skills in a clinical setting to develop proficiency in animal nursing techniques. Upon completion of this course, students will be able to perform more complex clinical procedures such as monitor patients in the anesthetic and recovery periods, properly restrain small animals, and prepare patients for surgery. PREREQUISITES: 091-110 - Clinical Skills I for Vet Sciences with a minimum grade of C or TR

**091-112**
**Clinical Skills III for Veterinary Sciences** **3.00**

In this course, students assimilate higher level skills in a clinical setting to develop proficiency in animal nursing techniques for veterinary technicians. Upon completion of this course, students will be able to place and care for intravenous catheters, administer intravenous and intramuscular injections, administer enemas, and apply and remove bandages and splints. PREREQUISITES: 091-106 - Surgical Procedures II for Vet Sciences with a minimum grade of C or TR

**091-113**
**Anesthesia for Veterinary Technicians** **3.00**

In this course, students investigate anesthetic delivery and monitoring equipment, pain management strategies, and appropriate responses to patient compromise to acquire skills needed to coordinate anesthetic events in veterinary

patients. Upon completion of this course, students will be able to choose and administer appropriate veterinary anesthetic protocols, monitor and maintain patient status throughout anesthetic events, and maintain equipment and accurate anesthetic records. PREREQUISITES: 091-108 - Veterinary Pharmacology and 091-111 - Clinical Skills II for Vet Sciences COREQUISITES: 091-106 - Surgical Procedures II for Vet Sciences

**091-114**
**Veterinary Tech Clinical Internship    4.00**

In this course, students hone animal nursing skills in a clinical setting to achieve proficiency needed to function in the role of veterinary technician according to the standards set by CVTEA. Upon completion of this course, students will have the skills and knowledge required of an entry level veterinary technician. PREREQUISITES: 091-112 - Clinical Skills III for Veterinary Sci with a minimum grade of C or TR

**091-120**
**Animal Behavior    1.00**

In this course, students consider normal and abnormal animal behavior, training methods, and the relationship between behavior and physical health to identify problem behaviors and potential solutions. Upon completion of this course, students will be able to recognize some behavior issues in domestic animals and choose appropriate resources for their modification.

**091-121**
**Emergency Medicine for Vet Technicians    1.00**

In this course, students explore topics in advanced veterinary critical care to develop awareness of procedures and equipment available in specialty facilities. Upon completion of this course, students will be able to identify the appropriate application of central venous and intraosseous catheterization, active drainage/suction devices, dialysis, and intracranial pressure monitoring in veterinary medicine. PREREQUISITES: 091-113 - Anesthesia for Veterinary Technicians with a minimum grade of C or TR

**091-122**
**Integrative Modalities for Vet Sciences    1.00**

In this course, students explore therapeutic options which may supplement traditional Western veterinary medicine to provide awareness of additional resources for patient care. Upon completion of this course, students will identify the appropriate application of spinal manipulation, acupuncture, massage, therapeutic ultrasound, homeopathy, and other treatment modalities in veterinary medicine. PREREQUISITES: 091-106 - Surgical Procedures II for Vet Sciences with a minimum grade of C or TR

**091-123**
**Veterinary Medical Terminology    2.00**

In this course, students explore the construction, meaning, and pronunciation of veterinary medical terms to establish understanding and facilitate communication among veterinary team members. Upon completion of this course, students will be

able to correctly formulate veterinary medical terms to describe specific concepts.

**101-100**
**Accounting Program Orientation    1.00**

Students develop skills to enhance their success in the Gateway Technical College accounting program and their career. These skills include self-assessment, time management, study skills, learning styles, and stress management. Students research the accounting field through the Internet, periodicals, and surveys. Students design an accounting academic and career development plan and initiate their ongoing program portfolio.

**101-103**
**Internship for Accounting    2.00**

This course is an on-the-job accounting related work experience. The student will perform 72 hours of accounting-related duties in a business, governmental or not-for-profit setting. Students are responsible for seeking and obtaining the internship workstation position (paid or unpaid). The student will make a summary of work activities. Job supervisor approval and instructor pre-approval are required. COREQUISITES: 101-121 - Intermediate Accounting

**101-104**
**Income Tax Accounting    4.00**

This course covers basic federal and state income tax laws. The student will prepare manual and electronic Federal and manual Wisconsin individual tax returns (including self-employment),as well as basic federal partnership, S-Corp, and corporate tax returns. Additional areas

of study will include: exemptions, gross income, deductions, credits, capital gains/losses, cost recovery, Sec. 1231 and 1245 recapture, passive activity losses, NOLs, AMT, and tax planning. Basic computer literacy required.

**101-105**
**Accounting Career Readiness    2.00**

Accounting Career Readiness will prepare student for entry into the workforce. The student will develop a strategy for seeking, obtaining and retaining employment. The student will identify professional goals and develop a job search or job advancement career plan, resume, application letter, and prepare for interviews. The student will explore local employment resources and career opportunities. COREQUISITES: 101-121 - Intermediate Accounting

**101-106**
**Accounting Spreadsheet Applications    3.00**

This course covers all levels of spreadsheet usage. The student will develop and edit business-related worksheets and charts, including linking worksheets and workbooks. The student will work with advanced topics such as data tables, Goal Seek, Scenarios and Solver to perform what if calculations on various data. The student will also work with financial functions, macros, and create reports. This course will prepare the student to become a Microsoft Office Specialist (MOS) certified in Excel at the Core or Expert level. PREREQUISITES: 101-114 - Accounting Principles or 101-112 - Accounting for Business and course 103-102 - Microsoft Excel or 103-143 - Computers for Professionals

**101-107**

**Accounting Capstone** 3.00

The accounting capstone course will guide the student in dealing with ethics, internal control and financial statement analysis in the accounting environment. Students will resolve accounting problems by applying skills and techniques acquired in previous courses. Students will apply business law and ethics to the accounting environment. PREREQUISITES: 101-104 - Income Tax Accounting 101-121 - Intermediate Accounting 101-131 - Management Accounting 101-119 - Payroll Accounting and 101-154 - Accounting Software Applications

**101-112**

**Accounting for Business** 3.00

A practical approach to the study of accounting. Basic accounting practices and procedures are explained with particular emphasis on the transactional effect on the income statement and balance sheet. Other areas covered include adjusting and closing entries; accounting for cash, including bank reconciliations and payroll accounting.

**101-114**

**Accounting Principles** 4.00

Accounting Principles is an introduction to the field of accounting. Fundamental concepts of the accounting process include financial statement preparation, journal entries, posting, adjusting and closing entries. Cash, inventory, receivables, payables, and plant assets including depreciation methods are also covered.

**101-116**

**Corporate Accounting** 3.00

In this course, learners will focus on accounting for corporations. Students will complete the accounting cycle for a corporation including financial statement preparation. Other topics covered will include accounting for stockholders' equity, correcting entries and error analysis. Students will also investigate appropriate internal controls and identify ethical considerations for processing financial transactions. PREREQUISITES: 101-114 - Accounting Principles COREQUISITES: 801-136 - English Composition 1 804-135 - Quantitative Reasoning 101-100 - Accounting Program Orientation and complete course 103-143 - Computers for Professionals or 103-102 - Microsoft Excel

**101-119**

**Payroll Accounting** 3.00

In this course, learners focus on preparing the payroll for a business. Students examine current payroll tax laws and regulations to calculate gross and net pay of employees, determine the employer's liability for payroll taxes, and prepare related journal entries. Students complete a Wisconsin Sales and Use Tax form. Upon completion of the course, students will be able to use computerized accounting software to enter and prepare a company's payroll and related reports.

**101-121**

**Intermediate Accounting** 4.00

Intermediate Accounting I will apply FASB principles and GAAP to corporations and will emphasize an in-depth understanding of the balance sheet. Students will learn to prepare classified balance sheets, account

for receivables, inventory valuation and estimation, acquisition and disposition of fixed and intangible assets, current and long-term liabilities, including time value of money concepts. PREREQUISITES: 101-116 - Corporate Accounting 801-136 - English Composition 1 804-135 - Quantitative Reasoning COREQUISITES: 101-100 - Accounting Program Orientation 103-143 - Computers for Professionals 103-102 - Microsoft Excel

**101-122**

**Intermediate Accounting II** 4.00

Intermediate Accounting II will cover advanced topics of corporate accounting with an emphasis on stockholders' equity and presentation of income statement items. Students will learn to prepare multi-step income statements and statements of cash flows, calculate EPS, account for investments in debt and equity securities, income taxes, and leases. They will utilize the revenue recognition principle, perform error analysis, and become familiar with the FASB's full disclosure requirements. Students will be expected to use Excel for preparation of designated projects. PREREQUISITES: 101-121 - Intermediate Accounting

**101-131**

**Management Accounting** 4.00

This course covers the fundamentals of management accounting for a manufacturing company. The student will learn the flow of costs through the accounting system including, material, labor, and factory overhead. The student will also learn job order vs. process cost accumulation, as well as computing and recording variances in a standard cost system. Cost behavior

analysis and total quality mangement will also be covered. The student will use quantitative models and cost analysis to make managerial decisions. The student will also prepare a master budget for a manufacturing business. PREREQUISITES: 101-114 - Accounting Principles

**101-143**

**Payroll Accounting** 2.00

Payroll accounting exposes students to the various tax rules and laws, tax rates, and reports that form the core of a payroll accountant's responsibility. Students will be working with tax tables and forms and will learn how to determine gross and net earnings of an employee. Deductions for social security, Medicare, and federal and state income taxes will be computed. Students will also be able to determine the employer's liability for payroll taxes, including unemployment and workman's compensation premiums. Other requirements include the completion of a Wisconsin Sales and Use Tax form. Electronic software will be utilized to input and run a company's payroll for one quarter along with manual preparation of federal tax forms.

**101-154**

**Accounting Software Applications** 2.00

This course is designed to introduce the student to commercially available accounting software. The student will keep data for customers, invoices, vendors, purchase orders, inventory, payroll, cash, and other data needed for both service and retail businesses. The student will also generate financial statements and other reports needed both for financial accounting and income tax purposes. PREREQUISITES:

101-112 - Accounting for Business or 101-114 - Accounting Principles

### 101-155
**Financial Analysis/Management    3.00**

The student will think critically and apply accounting knowledge, principles, and procedures by utilizing financial analysis and financial management techniques in managing the financial aspects of a "for profit" business. The student will learn to measure risk/reward/return; analyze corporate financial statements, and use time value of money analysis to make long-term financing decisions. The student will analyze corporate solvency and profitability utilizing ratio and trend analysis, apply financial valuation and working capital management techniques, develop cash budgets, and develop pro forma financial statements. A corporate annual report project is required using spreadsheet and word processing software. PREREQUISITES: 101-106 - Accounting Spreadsheet Applications COREQUISITES: 101-121 - Intermediate Accounting

### 101-159
**Income Tax Accounting II    3.00**

Students enhance their Income Tax Accounting skills in this course which expands on the knowledge of individual income tax accounting and introduces the basics of partnership and corporate tax accounting. Students will prepare individual and basic partnership and corporate tax returns. Current taxation topics will be discussed. The course also enables students to obtain certification as a Volunteer Income Tax Assistance (VITA) program volunteer. PREREQUISITES: 101-104 - Income Tax Accounting with a minimum grade of C or TR

### 101-162
**Accounting - Serving the Public Interest    3.00**

Students will learn how accountants can give to the community by providing their services without a fee. This course consists of class time plus approximately 36 hours of community service time doing something that reinforces and supplements their academic knowledge of accounting. Students will be able to choose from a variety of service learning placements, such as working with an agency who serves adults and helping with a banking, budgeting and other money management skills workshop, developing and implementing a cost system for a non-profit organization, developing and implementing an inventory tracking system for a food bank, provide basic accounting functions, bank reconciliations, general ledger, or computerize an accounting system for a non-profit organization. PREREQUISITES: 101-114 - Accounting Principles with a minimum grade of B

### 101-163
**Triple Bottom Line Accounting    3.00**

Students will look at financial and managerial accounting concepts with a focus on being responsible to all stakeholders, anyone who is influenced by the actions of the company, directly or indirectly. The triple bottom line is made up of economic, environmental and social factors. The ultimate goal is strong profits, a healthy environment and strong communities. Sustainability and the idea of global and responsible management of resources are emphasized. PREREQUISITES: 101-114 - Accounting Principles with a minimum grade of B

### 101-164
**Non-Profit Acctg Software Applications    3.00**

Students will learn how to account for non-profit organizations using commercially available accounting software. Management of donors, grants, and pledges and topics such as allocating expenses to programs, handling donor restrictions, and generating the reports needed for donors and tax returns are covered. PREREQUISITES: 101-114 - Accounting Principles or 101-112 - Accounting for Business

### 102-118
**International Bizsquad Internship    3.00**

International BIZSquad students will engage in multidisciplinary global projects. As projects go from creation to implementation the students will have to engage the clients and provide communication essential to positive outcomes. Project management skills help define the scope of the project that leads to successful implementation. Students will be required to travel internationally to complete these projects.

### 102-121
**Credit Management    3.00**

The learner will examine the world of personal and business credit and explore the implementation and consequences of various credit management policies. The learner will also examine applicable regulations as it pertains to consumer and business credit, as well as relationships with regulatory agencies, stakeholders and the management of the business as it relates to fiduciary responsibilities of the modern manager. PREREQUISITES: 801-136 - English Composition 1 804-135 - Quantitative Reasoning

### 102-122
**Investments    3.00**

This course acquaints the student with the fundamentals of investments. Topics include the operation of the securities and financial markets and the risk and timing of investment decisions. Analysis factors such as the investment environment, the economy, the industry and the individual company are discussed in terms of equity, fixed income and specialized security analysis. Investment strategies are utilized to develop an investment plan and diversified portfolio. Other individual projects include mutual fund and stock selection and analysis.

### 102-137
**Business/Introduction to    3.00**

General orientation to the business world. Studies include organization and administration, production, labor and personnel, accounting and statistics, distribution, finance, and the relationship of business to society.

### 102-138
**BIZ Internship    3.00**

Establishes an opportunity for students to apply training and skills learned while participating on a multidisciplinary consulting team. The team will develop a strategic plan for a specified business. Students contract with the business and course instructors(s) to complete a project to the parameters mutually identified by the business and the instructors(s). Evaluation of the student's performance will be a cooperative effort between the members of the BIZ Squad, instructor(s) and the business clients. Participating students can be from many different Career Clusters.

**102-160**
**Business Law** 3.00

Business Law is a survey course which introduces the student to relevant legal issues that affect business today. Students will learn the fundamentals of law from the U.S. Constitution to the Uniform Commercial Code, from Contract Law to Property Law, and will be able to identify the legal basis of various business activities.

**102-186**
**Business Management Internship** 3.00

Establishes an opportunity for the student to apply training and skills in a business work environment. The student will spend 144 hours at the worksite(s). The worksite activities will allow the student to interact with a variety of management functions found in small to medium sized businesses. Classroom hours will include preparation of job portfolio materials and interview techniques.

**102-196**
**Business Decision Management** 4.00

This capstone course within the Business Management Program will take the student through the decision process of a business enterprise. This class will pull together the breadth of the learner's business and general educational exposure, experience and education leading into this course and put practical use and application to this knowledge. Application concepts such as capital budgeting techniques, time value of money consideration, conventional and alternative sources of capital, mitigating risk and liability through utilizing various forms of business organizations as well as analysis of financial statements will be covered in detail.

The learner will then assemble their own business plan for a new venture, business line expansion, business acquisition or business divestiture. PREREQUISITES: 101-114 - Accounting Principles or 101-112 - Accounting for Business minimum grade of C, also complete courses 103-103 - Microsoft Excel II 104-101 - Marketing Principles with a minimum grade of C

**103-100**
**Internet, Introduction to** 1.00

Students learn to use the Internet effectively, to access the net through the World Wide Web browser and other useful tools, and to use the Internet's vast resources to complete a research project in a field of interest.

**103-102**
**Microsoft Excel** 1.00

Introduction to Excel spreadsheet software. Students will learn how to create, store, retrieve and edit a variety of spreadsheets and charts, format worksheets and use formulas. Basic functions will be stressed.

**03-103**
**Microsoft Excel II** 1.00

This course will take students to the next level of competency in Excel. Topics covered include creating workbooks using templates, multiple sheets, 3-D references in formulas and linked workbooks, using database features of Excel, use copy, paste, paste special, and paste link features, and create charts using the Chart Wizard.

**103-104**
**Microsoft Excel III** 1.00

Students will use the Function Wizard to create functions involving IF, Lookup, and PMT; use the tools menu to create, play and edit macros; and integrate spreadsheets and charts with Word and Access tables.

**103-105**
**Microsoft Access** 1.00

For beginning-level users of Microsoft Access. Students will discuss basic database terminology and design concepts; create and modify table structures; add, change, and delete records; and create simple selection queries to find, display, and print records.

**103-106**
**Microsoft Access II** 1.00

For intermediate-level users of Microsoft Access. Students will create queries to sort records, compute record and group totals and statistics; and use different methods to create and print data entry forms and reports.

**103-109**
**Windows Operating Systems and Concepts** 1.00

This is the beginning course for students wishing to learn the Windows Operating System. Creating, organizing, and manipulating files and folders in this operating environment will be emphasized. Setting and managing security and privacy settings, and customizing windows, will also be addressed.

**103-110**
**Microsoft PowerPoint** 1.00

This course will take the user of PowerPoint through the basic procedures necessary to create a presentation and related handout materials. The student will learn to use the wizards, toolbars, dialog boxes, menus, and various PowerPoint views to create a presentation.

**103-111**
**Microsoft PowerPoint II** 1.00

This course will take the user of PowerPoint presentation graphics to an advanced level of competency. Inserting graphics, clip art, and organizational charts are emphasized. Adding sound to the presentation is also covered.

**103-112**
**Microsoft Word** 1.00

This course is designed to teach the participant the fundamentals of word processing with Microsoft Word. A variety of business documents will be created to familiarize the learner with various commands and features.

**103-113**
**Microsoft Word II** 1.00

This course will cover multi-page documents, tables, columns, graphics and other desktop publishing features.

**103-138**
**FrontPage - Beginning** 1.00

This is the entry-level course for creating, maintaining and publishing a website using web authoring software.

**103-142**
**Basic Computing** 1.00

This course will give the learner the skills to use electronic mail, Bb, Web Advisor, common beginning features of Microsoft Office, USB usage, printing at Gateway, and saving/opening files.

**103-143**
**Computers for Professionals** 3.00

This course introduces students to the use of a PC. Through hands-on practice, students will manage files, communicate using e-mail, and use the Internet, word processing, spreadsheet, and presentation software. Students must use the version of Microsoft Office software in use at Gateway Technical College. Basic keyboarding skills are recommended. PREREQUISITES: 103-142 - Basic Computing or 860-720 - Basic Skills Computer Class with a minimum grade of C or TR or achieve the required placement test score

**103-144**
**Windows 8: Basics** 1.00

This course will prepare you to work in the new Windows 8 operating system and create an interface designed for your personal needs. You will learn about new terminology, what happened to the Start Button, Icons and Taskbar. If you have a new computer that came with Windows 8 or recently upgraded, you will want to take this class. Students are required to have Windows 8 on their own personal computer/laptop (no tablets or iPads), as it will not be available in any campus labs.

**104-101**
**Marketing Principles** 3.00

This is a foundational course that introduces students to the principles of marketing. The course explores the entire marketing mix including: segmentation, targeting, positioning, marketing research, consumer behavior, Product development, pricing policies, distribution and overview of promotion. This course provides a comprehensive overview of the exciting world of marketing.

**104-104**
**Selling Principles** 3.00

Principles of Selling provide the student with a basic understanding of the consultative selling process. This course will build a solid understanding of the steps in the professional sales process, examining the characteristics of a successful salesperson, buyer behavior, communication styles, and ethics. Class discussions of actual selling problems will be encouraged in addition to solving case problems, scenario role plays, and student's sales presentations.

**104-105**
**Promotion Principles I** 3.00

Students are introduced to the theory and practice of integrated marketing communications. This course is designed to provide an understanding of the promotional elements; advertising, direct marketing, public relations, sales promotion, and digital marketing with emphasis placed on implementation of integrated marketing communications (IMC) in planning marketing and promotional programs.

**104-109**
**Marketing/Sports and Event Introduction** 3.00

This course will provide students with an awareness of the careers available within sport/ event marketing industry and enable them to learn the introductory skills necessary to pursue employment in the field. A basic understanding of sports and event marketing followed with exposure to the major components of the industry will be covered. Students will also maintain an awareness of current trends and happenings in the industry.

**104-110**
**Corporate Sponsorship Development** 2.00

This course will provide students with the necessary information and skills to develop marketable sponsorship proposals. In addition, they will explore both perspectives of sponsorship: the seller (representing an event, team, property or venue) and the buyer (representing a company with a desire to market and promote through a sport or event sponsorship). Students will develop skills necessary to sell their proposals.

**104-111**
**Ticket Sales** 1.00

This course is intended to teach the importance of the sell out mentality for events. The class will cover developing a data base, discounting, creating a variety of ticket packages, targeting groups, developing a sales staff, and retaining season ticket holders through renewals.

**104-115**
**Marketing Capstone/Internship** 3.00

This course will allow you to prepare for entering the career of marketing. You will create and update career credentials (resume and portfolio) that will be necessary to compete in an employment market. To further enhance your employability you will be able to demonstrate your marketing skills in an applied internship. PREREQUISITES: 104-173 - Marketing Research 801-136 - English Composition 1 804-135 - Quantitative Reasoning

**104-116**
**E-Marketing/Social Media** 3.00

In this course the student will explore the concepts, trends and planning involved in developing a comprehensive electronic marketing strategy for a business, with an emphasis on social media. This will include looking at the proper design concepts for a web site, using successful social media techniques, identifying emerging trends in the marketplace and developing a comprehensive electronic marketing/social media campaign. PREREQUISITES: 104-101 - Marketing Principles

**104-118**
**Advanced Promotion** 3.00

Advanced Promotion immerses students in the application of offline and online Integrated Marketing Communications. Creative emphasis will be placed on positioning and branding along with the incorporation of Digital Space innovation that encourages customer engagement with promotions through technology. This hands-on course challenges the students to perform the role of ad agency with creative

development of promotions, writing a creative brief, and incorporating presentation skills. PREREQUISITES: 104-105 - Promotion Principles I

**104-119**
**Visual Merchandising**          **3.00**

This course explores merchandising display and point of purchase advertising. This includes the principles of display, harmony, rhythm, proportion, balance, emphasis and color. Showcard and sign production are covered, as well as creative efforts through the production of several displays.

**104-126**
**Business Marketing I**          **3.00**

This course covers process and systems analysis, inventory planning and control, quality control, marketing cost analysis, marketing plans all related to industrial goods. PREREQUISITES: 104-101 - Marketing Principles

**104-127**
**Retailing**          **3.00**

Retailing provides the student with a basic understanding of the retail environment. The course includes: the retail structure, basic factors involved with store location, product line, fixtures and equipment. The course will also focus on major trends in retailing, along with strategies used in staffing, maintaining personnel, merchandise planning and control, and strategies in merchandise buying and receiving.

**104-161**
**Selling Principles/Advanced**          **3.00**

This course further applies Selling techniques in real world applications. Student will be made aware of various sales careers and necessary qualifications. Time management, territory planning, motivation, networking, direct marketing and negotiating for the salesperson will be studied. Sales meetings and practical sales demonstrations will be presented by the students. PREREQUISITES: 104-104 - Selling Principles

**104-170**
**Business Purchasing**          **3.00**

An understanding of industrial purchasing is developed through the study of the basic principles of buying; regulations and laws controlling purchasing; duties and qualifications of the buyer or purchasing agent.

**104-172**
**Marketing Management**          **3.00**

This course is an expanded look at issues and trends in the field of marketing. This course provides the student with decision-making activities that are involved with marketing management. Emphasis is placed marketing opportunities and strategies used in the marketing mix. Students will develop a comprehensive marketing plan. PREREQUISITES: 104-173 - Marketing Research 801-136 - English Composition 1 804-135 - Quantitative Reasoning

**104-173**
**Marketing Research**          **3.00**

Businesses today need current, accurate information upon which to base their decisions. We will study the types and sources of data as well as the methods of organizing that data into usable readable information for marketing decisions. We will apply our learning by developing a marketing research project. PREREQUISITES: 104-194 - International Marketing 801-136 - English Composition 1 804-135 - Quantitative Reasoning

**104-194**
**International Marketing**          **3.00**

The course is a study in the marketing of goods and services at the Global level. The international uncontrollable variables of marketing are analyzed along with emphasis on market development, marketing research, product planning, international distribution, promotion, and pricing. Students explore how marketing strategies and tactics must be managed and adapted for success in different cultural, economic, geographic and political environments around the world. COREQUISITES: 801-136 - English Composition 1 804-135 - Quantitative Reasoning

**105-106**
**Business Communications**          **3.00**

In this course, students apply the skills and tools necessary to effectively compose business communication in a written format. Each student demonstrates the application of analyzing the communication situation, including: planning and preparing the message; developing persuasive, informational, and negative messages,

sales letters, media releases, proposals and promotional materials; demonstrating skills in basic writing mechanics and English grammar; and effective electronic communication. PREREQUISITES: 801-136 - English Composition 1

**106-005**
**Administrative Professional**
**Internship**          **2.00**

Students perform word processing, spreadsheet, and database application work in an on-the-job training situation in an office. The student employee, employer, and internship instructor interact during the training experience. The Internship includes 72 hours of employment credential preparation and software review before job placement.

**106-006**
**Business Communication Skills**          **3.00**

Effective written business communication principles are discussed and applied to the composition of routine business correspondence and reports. Oral communication presentations will be used to enhance the student's understanding of effective communication principles. Proper communication techniques for telephone use will be demonstrated. PREREQUISITES: 106-030 - Word Processing for Business, 106-137 - Keyboarding Applications, and 801-136 - English Composition 1 with a minimum grade of C or TR

**106-007**
**Business Software Solutions**          **2.00**

Business Software Solutions is a capstone course integrating the aspects of word

processing, database, spreadsheet, graphics, and communications using a Windows environment. PREREQUISITES: 106-013 - Spreadsheet/Database for Business II or 106-142 with a minimum grade of C or TR

**106-008**
**Emerging Business Trends and Tech.**                     **2.00**

A capstone course integrating the aspects of word processing, database, spreadsheet, graphics, electronic mail, and calendaring applications.

**106-009**
**Meetings/Planning**                     **1.00**

This course introduces students to the scheduling and planning of business meetings.

**106-010**
**Publication Design for Business**   **2.00**

Create print-ready newsletters, brochures, flyers, forms, business cards, and other business publications. PREREQUISITES: 106-137 - Keyboarding Applications with a minimum grade of C or TR

**106-011**
**Records Management**                     **1.00**

This course presents guidelines and procedures for controlling business information from its creation through its distribution, retention and retrieval, storage, preservation, protection, and final disposition. The main systems include alphabetic, numeric, and subject filing.

**106-012**
**Spreadsheet/DB for Business I**     **3.00**

This course covers spreadsheet and database software for the business world. PREREQUISITES: 106-137 - Keyboarding Applications with a minimum grade of C or TR

**106-013**
**Spreadsheet/Database for Business II**                     **3.00**

This course covers spreadsheet and database software for the business world. Emphasis will be on more advanced features of spreadsheets and databases. PREREQUISITES: 106-012 - Spreadsheet/ DB for Business I or 106-138 with a minimum grade of C or TR

**106-014**
**Word Processing for Business I**     **2.00**

This class covers features of word processing software from the beginning level. Students develop expertise in the creation of business documents through the use of operational and text-editing features. Proofreading and language skills will be developed through the production of business documents. PREREQUISITES: 106-137 - Keyboarding Applications with a minimum grade of C or TR

**106-015**
**Word Processing for Business II**     **2.00**

This class covers the features from an intermediate level. Proofreading and language skills will be developed through the production of business documents. PREREQUISITES: 106-014 - Word Processing for Business I or 106-003 with a mimimum grade of C or TR

**106-016**
**Principles of Customer Service**       **3.00**

Provides a solid foundation in the areas of customer service and service excellence and provides techniques to retain customers and maintain loyalty in both a face-to-face environment and in remote settings via telephone and the Internet.

**106-018**
**Customer Service Management**       **3.00**

Includes instruction in customer behavior; using customer service databases; Internet searching and retrieval; and telephone, e-mailing, and communications skills. PREREQUISITES: 106-016 - Principles of Customer Service

**106-019**
**Administrative Service Internship 1**   **1.00**

Students will be required to complete 36 hours of an on the job work experience. Students will also spend time in the classroom enhancing their employability skills. PREREQUISITES: 106-137 - Keyboarding Applications COREQUISITES: 106-024 - Professionalism in Business 801-136 - English Composition 1 804-135 - Quantitative Reasoning

**106-020**
**Administrative Service Internship 2**   **1.00**

Students will be required to complete 36 hours of an on the job work experience. Students will also spend time in the classroom enhancing their employability skills. PREREQUISITES: 106-137 - Keyboarding Applications and 106-024 - Professionalism in Business

**106-021**
**Business Office Fundamentals**       **3.00**

This course presents a general orientation to the business world geared toward the office worker. Studies include exploring global and domestic business offices, investigating business functions and learning how departments fit together for one common mission of the organization.

**106-022**
**Information Management for Business**                     **3.00**

This course will prepare students to manage records in business in paper and electronic form. Topics covered will include basic database terminology and design concepts, creating and modifying table structures; adding, changing, and deleting records; and creating queries to find, display, and print records. The ARMA rules for records management will also be covered. PREREQUISITES: 106-137 - Keyboarding Applications with a minimum grade of C

**106-023**
**Office Management**                     **3.00**

This course will orient the learner to the function of management in an office. Topics related to managing office operations and procedures, budgeting, interviewing others, assigning and monitoring clerical functions, training and business ethics will be included.

**106-024**
**Professionalism in Business**       **3.00**

This course prepares the learner for job search as they near graduation. Topics covered will include; resume and portfolio preparation, interviewing skills, and dressing

for success. An emphasis will also be placed on the soft skills necessary in today's business world.

**106-025**
**Spreadsheets in Business    3.00**

This course prepares the learner to utilize a variety of spreadsheet software in business. While an emphasis will be placed on Microsoft Excel, other current spreadsheet software will be covered. PREREQUISITES: 106-137 - Keyboarding Applications with a minimum grade C

**106-026**
**Business Publication    3.00**

In the course, students will create print-ready newsletters, brochures, flyers, forms business cards, and other business publications using current publishing software including MS Publisher, MS Word, and Adobe. PREREQUISITES: 106-137 - Keyboarding Applications with a minimum grade C

**106-027**
**Integrated Business Projects    3.00**

In this course students complete scenario-based activities using business productivity software skills. Students will apply software and document processing skills to create solutions to common business information needs. Using a case study approach, students will develop communication, Internet research, teamwork, critical-thinking and problem-solving skills. Upon completion of this course, students will use MS Office Suite to integrate and present data with skill. PREREQUISITES: 106-025 - Spreadsheets in Business with a minimum grade C;

Complete course 804-135 - Quantitative Reasoning

**106-028**
**Office Technologies Essentials    3.00**

This course is an introduction to the computer system unit, the Internet and social Web, hardware and software, system software, Google applications and emerging office technology.

**106-029**
**Presentations for Business    3.00**

This course prepares the learner to utilize a variety of presentation software in business. While an emphasis will be placed on MS PowerPoint, other current presentation software will be addressed. PREREQUISITES: 106-137 - Keyboarding Applications with a minimum grade C

**106-030**
**Word Processing for Business    3.00**

This course covers an intermediate level of word processing skills. Proofreading and language skills will be developed through the production of business documents including business letters and reports. Advanced formatting features will be used in MS Word. PREREQUISITES: 106-137 - Keyboarding Applications with a minimum grade C

**106-119**
**Professional Development    2.00**

Professional Development places emphasis on the development of a total professional image. Social and business intelligence, personal and professional goals, positive

work attitude, time management, productive work habits, customer service knowledge, and job seeking skills, including the development of a job portfolio, are covered.

**106-126**
**Keyboarding    1.00**

Develop touch method skills on the computer keyboard through fingering techniques, speed, and accuracy drills.

**106-127**
**Skill Building I    1.00**

A beginning course designed to help students who already have basic keyboarding skills improve their speed and accuracy. PREREQUISITES: 106-126 - Keyboarding

**106-137**
**Keyboarding Applications    3.00**

This course is designed to develop keyboarding skills and basic document formatting techniques using word processing software.

**106-178**
**Business Proofreading and Editing    2.00**

This course is designed to improve total effectiveness in written communication by providing a comprehensive review of the rules governing business communications. The current edition of the Gregg Reference Manual will be used in this course. In addition, the course provides tips for developing and strengthening good proofreading skills.

**106-190**
**Administrative Office Procedures    3.00**

This course will develop professional skills and attitudes needed in today's global business environment. Topics include making ethical decisions, working independently and as a team member, and managing time. Telecommunications, mail processing, travel arrangements and conferences, public relations, and ergonomics will be included. PREREQUISITES: 106-025 - Spreadsheets in Business

**106-199**
**Web Pages for the Office    2.00**

This is an entry level course for the office systems technology professional who wishes to modify, publish, and maintain a web site. This course will focus on what the Internet is and how it is used in a business environment. Web publishing software will be used for: revising and publishing web pages and web sites; using lists, hyperlinks, images, and the task list; creating tables and frames in web pages; using advanced editing and publishing features; and incorporating forms and using appropriate forms handling. To be successful, the student must have an understanding of any one of the Windows 95/98/ME/XP operating systems and file management.

**106-370**
**Medical Transcription I    4.00**

Structured to help students become skilled in translating physician's dictated reports into final written form acceptable for use in the patient's medical record. COREQUISITES: 106-178 - Business Proofreading and Editing, 501-101 - Medical Terminology, and 509-302 - Human Body in Health and Disease

**106-371**

**Medical Transcription II** 4.00

Students increase and sharpen skills in transcribing medical reports. Includes working with foreign accents. PREREQUISITES: 106-370 - Medical Transcription I

**106-373**

**Medical Transcription Functions** 3.00

Introduces the response of the body to interruptions in normal functioning as with injury and disease. Diagnostic measures and treatment modalities associated with pathophysiology, clinical laboratory and pharmacology will be identified. Professional and ethical conduct will be emphasized. PREREQUISITES: 106-370 - Medical Transcription I and 509-302 - Human Body in Health and Disease

**106-374**

**Medical Transcription Externship** 1.00

The externship will be done in an affiliated hospital or medical clinic. Opportunity to put into practice the skill mastered in the academic setting will be provided. Supervision, guidance and evaluation will be completed by the externship site and Gateway Technical College staff.

**106-392**

**Office Field Study** 1.00

This course provides the student with the opportunity to observe basic office procedures and personnel on a job site. The student will be responsible for making arrangements for two four-hour observations and one eight-hour job shadowing experience. Students will be expected

to report orally and in writing on their observations and shadowing experience. PREREQUISITES: 106-137 - Keyboarding Applications COREQUISITES: 106-119 - Professional Development

**107-003**

**Network+ Exam Prep** 1.00

This course will prepare an individual for the Network+ certification exam. It is intended for individuals who have completed the CCNA classes (107-135 Data Communications, 107-162 Routing Principles, 107-167 Switching Basics, and 107-168 WAN Technologies) or have a background in network installation, troubleshooting, and maintenance.

**107-009**

**A+ Essentials Review Class** 1.00

This course will prepare an individual for the A+ Essentials Certification Exam. This is the first of two exams that must be passed for an individual to achieve the A+ certification. This class is intended for individuals who have completed coursework in basic computer support or have a background in PC troubleshooting. The focus of this class is the fundamentals of: personal computer components, laptop and portable devices, operating systems, printers and scanners, networks, security, safety and environmental issues, and communication and professionalism. This class will consist of lectures on the essential material for this exam and will not provide class time to perform labs. All students will be required to purchase a book and a certification test bank (self-test software).

**107-010**

**A+ 602 Review Class** 1.00

This course will prepare an individual for the A+ 602 Certification Exam. This is the second of two exams for an individual to achieve A+ certification. This class is intended for individuals who have passed the A+ Essentials exam and have completed coursework in computer support or have a background in PC troubleshooting. The focus of this class is the advanced topics of: personal computer components, laptop and portable devices, operating systems, printers and scanners, networks, security, safety and environmental issues, and communication and professionalism. This class will consist of lectures on the essential material for this exam and will not provide class time to perform labs. All students will be required to purchase a book and a certification test bank (self-test software).

**107-011**

**IT in Business** 3.00

This course is a basic introduction to Information Technology (IT) and how it impacts our lives. It will focus on how IT professionals implement industry tools and applications throughout businesses. Students will learn proper terminology as well as industry trends and concepts.

**107-013**

**IT Job Search Skills** 1.00

Learn how to start your IT job search! Students will develop a job search plan and prepare a professional job search portfolio. Different job search tools will be utilized in order to assist the student in finding the best job for them. Current job searching trends and interviewing techniques will be

discussed and applied. PREREQUISITES: 150-114 - Network Concepts - CCNA1

**107-014**

**A+ 801 Certification Review** 1.00

This course will prepare an individual for the A+ 801 Exam. This is the first of two exams that must be passed for an individual to achieve the A+ certification. This class is intended for individuals who have completed coursework in basic computer support or have a background in PC troubleshooting. The focus of this class is installation and support of personal computer hardware, laptops, printers, networks, security, safety and environmental issues, and communication and professionalism. This class will consist of lectures on the essential material for this exam and will not provide class time to perform labs. All students will be required to purchase a book and certification test bank.

**107-015**

**A+ 802 Certification Review** 1.00

This course will prepare an individual for the A+ 802 Certification Exam. This is the second of two exams for an individual to achieve A+ Certification. This class is intended for individuals who have passed the A+ 801 Exam and have completed coursework in computer support or have a background in PC troubleshooting. The focus of this class is installation and support of operating systems, mobile devices, security/forensics, and properly and safely diagnosing, resolving and documenting common hardware and software issues whil applying troubleshooting skills. This class will consist of lectures on the essential material for this exam and will not provide class time to perform labs. All students

will be required to purchase a book and certification test bank.

**107-016**
**A+ Certification Review Part 1**        1.00

This course will review the material covered in the first of two certification exams that must be passed in order for an individual to achieve their CompTIA A+ certification. The course will follow the current exam series (for exam specifics please visit the CompTIA.org website). This class is intended for individuals who have completed coursework in basic computer support (such as the IT Essentials course) or have a background in PC troubleshooting. The focus of this course is to review the installation and support of personal computer hardware and peripherals, mobile device hardware, and networking devices. It also covers troubleshooting hardware and network connectivity issues. This class will consist of lectures on the essential material covered in this exam and is meant as a review so it does not include hands-on labs. All students will be required to purchase a book and certification study test bank tool.

**107-017**
**A+ Certification Review Part 2**        1.00

This course will review the material covered in the second of two certification exams that must be passed in order for an individual to achieve their CompTIA A+ certification. The course will follow the current exam series (for exam specifics please visit the CompTIA.org website). This class is intended for individuals who have completed coursework in basic computer support (such as the IT Essentials course) or have a background in PC troubleshooting. The focus of this course

is to review the installation and configuration of desktop and mobile device operating systems. It also covers cloud computing fundamentals, computer and network security and operational procedures. This class will consist of lectures on the essential material covered in this exam and is meant as a review so it does not include hands-on labs. All students will be required to purchase a book and certification study test bank tool.

**107-177**
**IT Project Management**        4.00

Focus will be on project management from the information systems professional perspective while keeping a customer-based orientation and business focus. Cooperative team-based business strategies will be stressed. Students will develop written and oral communications, as necessary, to complete the steps within the project management process. Project management software will be utilized, within all phases of the systems development as the students progress through a team-based project simulation. PREREQUISITES: 154-113 - IT Apps Server and Support minimum grade C and 801-197 - Technical Reporting

**107-193**
**IT Essentials**        3.00

IT Essentials focuses on the relationship between hardware and system software. The course topics include PCs, peripherals, networking, security, troubleshooting, and communication skills. IT Essentials is an introductory course that presents a foundation toward the pursuit of CompTIA A+ certification.

**109-101**
**Hospitality/Principles of**        3.00

This introductory course tours the related hospitality fields of hotels, tourism, foodservice, and attractions with an emphasis on customer service. The course will cover the typical types of establishments found in the US and Wisconsin. Students will be introduced to common job titles, organizational structures, career opportunities, and trends in this field.

**109-106**
**Advanced Tourism Managment**        3.00

This course covers practical marketing and management for temporary events such as fairs, pop-ups, and tourism events. The goal is to create vital internet marketing strategies using emerging technologies to entice customers. Students will identify the key customer service needs for this type of tourism event. PREREQUISITES: 109-112 - Tourism, Introduction Tol 109-171 - Hospitality Sales and Marketing

**109-108**
**Event Managment**        3.00

This course explores the details of event management including identifying stakeholders, planning event, development of event needs, management of participants, and execution of events.

**109-110**
**Rooms Division Management**        3.00

This class will highlight the operations of the Rooms Division of a hotel including Reservations, Front Desk, Night Audit, Bell Staff, Housekeeping, and Laundry. The goal is understand the relationship between

the departments and how they support the Guest Cycle.

**109-112**
**Tourism, Introduction to**        3.00

This course covers the tourism industry including why people travel, the social and cultural aspects to tourism, and governmental development of tourism. Students will explore the interrelations between tourism, hotels, food, and attractions in the Wisconsin region. Emphasis will be on customer service needs within this field.

**109-113**
**Tourism Attraction and Management**        3.00

This course is an overview of the Tourism Attractions in the local area. Students will identify the establishments, look at the specific unique customer service and management aspects of this type of establishment.

**109-114**
**Managing Services/Hospitality Industry**        3.00

Students will master the key supervision skills needed in the hospitality fields. Topics will include planning, organizing, staffing, controlling, leadership, team management, staffing, and training.

**109-121**
**Hotel Operations, Intro to**        3.00

This course covers the historical development of hotels with a discussion of the modern day types of properties.

Students will learn the guest cycle with a focus on customer service and will explore the interrelations of the different departments in a hotel or resort.

**109-122**
**Service in the Hospitality Ind, Intro to**                          3.00

Discusses customer service in the hospitality field and how it is the backbone of this industry. Students will learn how to identify good and not so good service as well as how correct service evolved and the reasons for its existence. Students will learn how to deal with upset customers and gain basic dispute management skills.

**109-123**
**Bar and Beverage Management**      3.00

This course deals with the practical operational issues of beverage operations. With a customer service focus, this class will focus on marketing, menu development, cost control, pricing, mixology, customer service, legal issues, training, as it relates to bars and beverage service. Students will have an overview of products available for sale as well as a discussion of food and alcohol pairing principles.

**109-124**
**Hotel Facilities Management**       3.00

This course focuses on the management of the property including design and renovation considerations. The class will also identify security and risk management issues especially as related to customer service standards. This class will also discuss the facility operations of alternative hotels including historic, BandB, spas, resorts,

etc. PREREQUISITES: 109-121 - Hotel Operations, Intro to

**109-125**
**Hospitality Managerial Accounting**   3.00

This course explains financial statements as they apply to the hospitality industry. Students will learn how to interpret, analyze, and use these statements. Ratios and comparison techniques will be explored. Students will create budgets using generally accepted principles.

**109-126**
**Advanced Customer Service Mgmt.**  3.00

This class focuses on the systematic structures needed to provide exceptional customer service including hiring, training, work organization, quality management and quality assurances. Students will explore how change affects customer perceptions and expectations. PREREQUISITES: 109-122 - Service in the Hospitality Ind, Intro to with a minimum grade of C

**109-127**
**Hotel Strategic Management**        3.00

This capstone course focuses on the strategic management of a hotel property. Student will master cost controls, yield management, and revenue strategies as it relates to lodging properties. Students will be able to articulate how their decisions affect the marketing, financial, and customer service standards of a hotel.

**109-128**
**Hospitality Front Line Internship**    2.00

This hands on course focuses on work experience at the entry level in the

Hospitality Industry. PREREQUISITES: 801-136 - English Composition 1 804-135 - Quantitative Reasoning 109-101 - Hospitality/Principles of

**109-129**
**Hospitality Supervisory Internship**    2.00

This hands on course focuses on work experience at the supervisory level in the Hospitality Industry. PREREQUISITES: 109-101 - Hospitality/Principles of COREQUISITES: 109-128 - Hospitality Front Line Internship

**109-131**
**Hospitality Capstone**                 2.00

This course readies the student for employment in the hospitality field. PREREQUISITES: 109-122 - Service in the Hospitality Ind, Intro to and 109-128 - Hospitality Front Line Internship COREQUISITES: 109-129 - Hospitality Supervisory Internship

**109-171**
**Hospitality Sales and Marketing**      3.00

Study marketing as it applies to hospitality industries. Develop theoretical and practical experience to create marketing plans for a variety of customers and establishments. Topics include the fundamentals of marketing principles, development of the marketing plan, sales promotion, marketing tactics and promotions, and special problems relating to this industry.

**114-101**
**Personal Financial Planning**         3.00

This course considers finance from the perspective of the individual or family unit. A broad range of topics in personal finance are discussed including: planning and managing your personal finances, making purchasing and credit decisions, insuring assets, investing and controlling your financial future.

**140-102**
**International Study - German Language**                          2.00

This course is designed for students participating in an international exchange with KSII school in Hessen, Germany. Students will be exposed to basic German language skills, cultural information, business etiquette, global business practices, and development of an oral presentation.

**140-107**
**Cultural Elements of Study Abroad**   1.00

In this course, students engage in global learning opportunities by working and studying abroad. Students develop cross-cultural skills through their observation of, communication with, and participation in the local culture visited. Upon completion of the course, students relate their global perspective to their program of study, and they present their experience abroad.

**140-109**
**International Field Study**           3.00

Provides students with first-hand knowledge of working and studying in their program related area in the international environment.

While abroad, students will gain cultural knowledge and understanding of values and behaviors in a different society and workplace. Upon completion of the course, students will be able to incorporate a global perspective into a comparison of professional and social practices in the US and the country visited. They will share their experiences and findings in a formal presentation.

**141-102**
**French for International Travel          1.00**

Students will learn the fundamentals of the French language spoken in the country they are visiting and become familiar with modes of transportation, currency, and food in preparation for their study abroad experience.

**141-103**
**German for International Travel          1.00**

Students will learn the fundamentals of the German language spoken in the country they are visiting and become familiar with modes of transportation, currency, and food in preparation for their study abroad experience.

**141-104**
**Spanish for International Travel          1.00**

Students will learn the fundamentals of the Spanish language spoken in the country they are visiting and become familiar with modes of transportation, currency, and food in preparation for their study abroad experience.

**141-105**
**Dutch for International Travel          1.00**

Students will learn the fundamentals of the Dutch language spoken in the country they are visiting and become familiar with modes of transportation, currency, and food in preparation for their study abroad experience.

**141-106**
**Culture and Language of Italy          3.00**

This course is designed as an introduction to the Italian language in which a formal presentation of the proper language and correct grammatical structures will be presented through listening, reading, writing, and speaking in Italian. The course includes cultural studies of Italy including business, art, government, education, geography, music and travel. In addition, learners will examine cultural behaviors essential to engage successfully in Italian business and social settings.

**141-107**
**Cultural Elements of Study Abroad     1.00**

Students will become familiar with geography, climate, demographics, conventions, customs, beliefs and safe travel practices of the country they are visiting in preparation for their study abroad experience. While abroad, students will gain cultural knowledge and understanding of values and behaviors in a different society and workplace.

**141-108**
**Italian for International Travel          1.00**

Students will learn the fundamentals of the Italian language spoken in the country they are visiting and become familiar with

modes of transportation, currency, and food in preparation for their study abroad experience.

**141-109**
**International Field Study          3.00**

Provides students with first-hand knowledge of working and studying in their program related area in the international environment. While abroad, students will gain cultural knowledge and understanding of values and behaviors in a different society and workplace. Upon completion of the course, students will be able to incorporate a global perspective into a comparison of professional and social practices in the US and the country visited. They will share their experiences and findings in a formal presentation.

**141-110**
**Culture and Language of Peru          3.00**

This course is designed as an introduction to the culture of Peru and the Spanish language in which the proper language and correct grammatical structures will be presented through listening, reading, writing, and speaking in Spanish. The course includes cultural studies of Peru including history, government, economy, education, geography, art, music and demographics. In addition, learning will examine cultural behaviors essential to engage successfully in community service work in Peru and communicate in social settings.

**141-111**
**Culture and Language of Iceland          3.00**

This course is designed as an introduction to the culture of Iceland, the Icelandic language and Icelandic and Norse literature.

Icelandic literature will be presented through a series of readings and instruction provided by the University of Iceland. The course includes cultural studies of Iceland including history, government, economy, education, geography, geology, sustainable energy, art, music and demographics.

**141-165**
**Spanish for Business          3.00**

This course is designed to enable students with minimal or no Spanish language skills to communicate effectively with Spanish speaking individuals. Designed for business students and professionals, the course presents basic conversational Spanish to apply in the many facets of this field. This course includes functional language and cultural awareness that could be applied in office clerical, marketing, accounting, supervisory, and other business functions. In this course students will be exposed to cultural differences, the benefits of cultural awareness, and function specific vocabulary. Student should expect to be able to understand and communicate basic vocabulary in a variety of business functions and fields.

**145-106**
**Entrepreneurship 3 - Operations
MGMT          3.00**

This course covers the aspect of effectively managing the resources of a small business. Covering the topics of managing finances, staff, marketing and technology. The student will work on projects that will be focused on their specific business needs and will assist the student in planning how to handle their day to day operations. COREQUISITES: 145-119 - Entrepreneurship

**145-119**

**Entrepreneurship** **3.00**

Can your idea be turned into a profitable business? Will power and hard work are not enough to guarantee success. You must first determine the feasibility of your idea. Before you quit your job, invest your life savings or dedicate time to complete a business plan, wouldn't it be nice to know whether business ownership is right for you? In this class, you'll examine your business idea from every angle. Not only will it help you make a decision about starting your business, you will discover whether the life of an entrepreneur is right for you.

**145-120**

**Business Planning and Development** **3.00**

Regardless if you need financing or not, a business plan is essential for the entrepreneur to be successful. This course will take a comprehensive look at your prospective business. Looking at key components that will include evaluating and developing your product/service offering, marketing plan, financial plan and growth plan. At the end of class you will develop a business plan for your proposed business. PREREQUISITES: 145-119 - Entrepreneurship

**145-121**

**Small Business Ownership** **3.00**

This course goes beyond the business plan and students will have the opportunity to start their own business. Students will combine classroom experience with the management of their business. To make this happen students will be assigned a mentor that will help them through the process. The goal of the course is to assist students in implementing their businesses in an ethical and socially responsible manner that ultimately enhances the local business community. PREREQUISITES: 801-136 - English Composition 1 COREQUISITES: 145-120 - Business Planning and Development

**150-105**

**Network/Web Concepts, Introduction to** **3.00**

This course will introduce networking and web concepts. Topics will include the internet, OSI model, wireless, security, logical and physical topologies, hacking, and web pages. Individuals will learn real world skills related to employment.

**150-106**

**Intrusion Detection Systems** **3.00**

Learn the basic concepts and techniques of Intrusion Detection Systems (IDS) and other network related defense strategies. Students will setup, configure, and monitor an Intrusion Detection System utilizing different leading edge products. Current network defense strategies will be discussed and popular tools will be used. Students will be able to apply the correct IDS and defense strategies for different business goals. PREREQUISITES: 150-194 - Network Security

**150-107**

**Scripting** **3.00**

Windows Powershell is used in the Microsoft world for administration and management of Windows Clients. This class will introduce IT students to Powershell and how it is used for administering Microsoft networks. Students will develop a sound understanding of administering Window's environments using Powershell and developing scipts using basic programming logic. COREQUISITES: 150-111 - Network Administration - Microsoft

**150-108**

**Virtual Technologies** **3.00**

Learn the basic concepts and techniques of virtual technologies. Students will setup, configure, and monitor virtual systems utilizing different leading edge products. Current virtual technologies configurations will be discussed and popular tools will be used. Students will be able to apply the correct virtual solution to different business goals.

**150-109**

**Network Admin Microsoft Server 1 2016** **3.00**

Microsoft Official Academic Course (MOAC) covering the installation, configuration, and storage options in Windows Server 2016 environment. Additional topics including maintaining, securing and monitoring server performance. The class prepares the student to study for the Microsoft 70-740 exam. PREREQUISITES: 150-114 - Network Concepts - CCNA1 COREQUISITES: 801-136 - English Composition 1

**150-110**

**Network Admin Microsoft Server 2 2016** **3.00**

Microsoft Official Academic Course (MOAC) covering Networking topics in a Windows Server 2016 environment. Additional topics include: DNS, DHCP, IP address management, connectivity solutions and advanced network infrastructure. The class prepares the student to study for the Microsoft 70-741 exam. PREREQUISITES: 150-109 - Network Admin Microsoft Server 1 2016 and 804-135 - Quantitative Reasoning

**150-111**

**Network Administration - Microsoft** **3.00**

This course is an introduction to basic and intermediate administration tasks in a Windows NT network environment.

**150-113**

**Network Administration - Linux/Unix** **4.00**

Advanced administration concepts and applications will be discussed and implemented. Topics include: implementing an enterprise network that incorporates a host system, multimedia, multiple platforms, UNIX, and other advanced network administration tasks. PREREQUISITES: 150-109 - Network Admin Microsoft Server 1 2016

**150-114**

**Network Concepts - CCNA1** **3.00**

This course will provide you with more in depth networking concepts. Topics will include the Internet, OSI model, wireless, security, logical and physical topologies, instant messaging, basic router setup and switch configuration, network connectivity, and hardware and software configurations. You will also learn how to create local area networks and wide area networks. Individuals will learn real-world skills related to employment. COREQUISITES: 804-135 - Quantitative Reasoning

**150-123**

**Application Server Administration   3.00**

Learn how to provide administration support for a variety of leading-edge application servers. Different types of application server software will be chosen to match the current trends in industry. Students will have hands-on experience installing, configuring, and supporting these application servers. PREREQUISITES: 150-111 - Network Administration - Microsoft

**150-124**

**Routing CCNA 2   3.00**

Provides classroom and lab experience in current and emerging networking technology. Includes the following networking concepts and technologies: OSI reference model, LANs, WANs, TCP/IP addressing, routers, router configuration, routed and routing protocols, Internetwork Open System (IOS) images and network troubleshooting. Students will become familiar with the use of commands and protocols that are used when configuring networks and will learn how to troubleshoot a multi-router topology. PREREQUISITES: 150-114 - Network Concepts - CCNA1

**150-125**

**CCNA Security   4.00**

This course will lead to CCNA Security certification. This course will enhance the student's knowledge of securing Cisco routers and switches and their associated networks. Acquired skills include installation, troubleshooting and monitoring of network devices in order to maintain integrity, confidentiality and availability of data and devices. Develops competency in the technologies that Cisco uses in its security infrastructure. PREREQUISITES: 150-135 - Switching and Wan's - CCNA 3 and 4 with a minimum grade of C or TR

**150-126**

**Network Security Design   3.00**

This course affords the network security specialist the opportunity to design a secure network in a team environment using the skills learned from the prerequisite classes. The student must demonstrate the ability to design, plan and execute an infrastructure that represents the services offered by a common business or organization. The student will research, design and prepare documents including notes, diagrams, references, and implementation instructions. PREREQUISITES: 150-106 - Intrusion Detection Systems with a minimum grade of C or TR

**150-127**

**Security Laws/Policies   3.00**

Students will learn about business and/or medical security laws, policies and procedures. This will include interpreting laws and policies as well as learning to write security policies and procedures to protect information, people, and property, while complying with legal and policy requirements. Students will develop an understanding of why certain procedures and policies must be followed in the business or medical field.

**150-128**

**Voice over Internet Protocol (VoIP)   4.00**

This course will provide the student with an understanding of converged voice and data networks and also the challenges faced by the various network technologies. The course will provide students with hands on experience in building and configuring an IP Telephony Infrastructure using Cisco Call Manager Express and Cisco VOIP phones. Students will modify the current LAN and WAN to accommodate the various IP Protocols. PREREQUISITES: 150-135 - Switching and Wan's - CCNA 3 and 4 with a minimum grade of C or TR

**150-129**

**Mobile Security   3.00**

This course focuses on leading-edge industry solutions for mobile technology and related security. Topics will include best practices for connecting and securing mobile devices, updating, recognizing the threats mobile devices pose to organizations, authenticating, encrypting, troubleshooting, theft services and wireless hot spot protection. PREREQUISITES: 150-124 - Routing CCNA 2 with a minimum grade of C or TR

**150-131**

**Network Specialist Internship   3.00**

Establishes an opportunity for the student to apply training and skills in a business/industrial/ academic work environment. The student will spend 144 hours at the worksite. Student contracts with the employer and the instructor regarding the work agreement and competencies. Classroom hours will include preparation of job portfolio materials and practicing interview techniques. PREREQUISITES: 150-114 - Network Concepts - CCNA1 and 107-193 - IT Essentials

**150-132**

**Active Directory Administration   3.00**

This course will prepare a network professional to work in a medium to very large computing environment that uses the windows network operating system. Hands-on labs will provide real-life tasks involved in implementing and administering directory services. PREREQUISITES: 150-111 - Network Administration - Microsoft

**150-133**

**Message Services Administration   4.00**

Students will learn to install, configure, and maintain a messaging server. This will include, but not be limited to, preparing for deployment, server installation, creation of user accounts, server management, and disaster recovery. PREREQUISITES: 150-111 - Network Administration - Microsoft

**150-135**

**Switching and Wan's - CCNA 3 and 4   4.00**

Continue to grow your networking skills by applying your knowledge from the two previous classes and learning more advanced concepts. New skills that will be explored include: configuring switches, implementing intermediate routing, calculating VLSMs, WAN services, NAT, PAT, configuring DHCP. Hands-on experience will be acquired by applying your knowledge to complete a comprehensive threaded case study. PREREQUISITES: 150-124 - Routing CCNA 2

**150-136**
**Server Technologies** **3.00**

Learn advanced server technology skills to prepare you to support a production server. These skills include server upgrades, fault tolerance, advanced networking, disaster planning and more. Develop a basic technology plan which includes server management and disaster recovery plans. This class will also prepare you to take the CompTIA's Server+ industry certification exam. PREREQUISITES: 107-193 - IT Essentials and 801-197 - Technical Reporting

**150-143**
**Computer Security and Penetration Test** **4.00**

Students will examine current network security topics through real world examples. They will explore how and why people attack computers and networks and prepare to defend and protect networks and their components. PREREQUISITES: 150-106 - Intrusion Detection Systems with a minimum grade of C or TR

**150-144**
**Firewalls and VPNs** **4.00**

Students will setup and configure hardware and software firewalls. They will compare and contrast firewall technologies, design firewall controls to meet various security scenarios and establish VPNs. Security controls will be deployed and performance analyzed. PREREQUISITES: 150-124 - Routing CCNA 2 with a minimum grade of C or TR

**150-145**
**IT Scripting** **3.00**

This course is designed to provide an overview of modern scripting languages commonly used to build and extend network administration and security tools. The course will introduce the student to scripting on both the Microsoft and Linux platforms. Students will explore the uses of scripting languages and third party modules for accomplishing tasks including scanning, enumeration and automation of network tasks.

**150-146**
**CyberSecurity** **4.00**

Students will develop ethical offensive and defensive strategies to protect various network configurations. They will determine which current tools and technologies to utilize while simulating attacks, analyzing and securing the network systems. PREREQUISITES: 150-194 - Network Security with a minimum grade of C or TR

**150-147**
**Network Administration Microsoft 1** **3.00**

Perform basic administration tasks of core services in a Windows Server environment. The class is the first in a series of three classes. Microsoft Official Academic Course materials are used. PREREQUISITES: 150-114 - Network Concepts - CCNA1 with a minimum grade of C or TR

**150-148**
**Network Administration Microsoft 2** **3.00**

Perform intermediate administration tasks of infrastructure services in a Windows

Server network environment. This class is the second in a series of three classes. Microsoft Official Academic coursework is used. PREREQUISITES: 150-147 - Network Administration Microsoft 1 with a minimum grade of C or TR

**150-180**
**What's in the Cloud?** **3.00**

Learn about the IT cloud. This course is designed to teach students the basic concepts and terminology of cloud computing. In addition to learning the definition of cloud computing, the students will be able to describe the various service delivery options of a cloud computing architecture, and cloud deployment models including private, public and community clouds. Students also learn about the security challenges that cloud deployments experience, and how these are addressed. Current cloud technolgies, tools, configurations and trends will be discussed. PREREQUISITES: 150-194 - Network Security

**150-181**
**Cloud Technologies** **3.00**

In this course, learners are introduced to different cloud computing infrastructures. Learners will develop skills for architecting the best cloud infrastructure solution for a business' goals. Cloud virtualization technologies will be examined and cloud solutions will be deployed. Cloud-related virtualization, networking, management, storage, security, and performance will be explored. Upon completion of the course, students will be able to deploy technology solutions within the cloud based infrastructure. PREREQUISITES: 150-124 - Routing CCNA 2

**150-182**
**IoT: Connecting Devices** **3.00**

In this course, learners are introduced to the interconnection of data, people, processes and things that forms the Internet of Things (IoT). Learners will differentiate among smart devices, connected devices, and Internet of Things (IoT) devices. Machine-to-machine (M2M), machine-to-people (M2P), and people-to-people (P2P) connections in an IoT solution will be examined. Security concerns that must be considered when implementing IoT solutions will be investigated. Upon completion of the course, learners will be able communicate with data over networks to IoT frameworks.

**150-183**
**VCP: Virtualization Technologies** **3.00**

In this course, learners are introduced to Enterprise virtualization using VMware vSphere, ESXi and vCenter. Through hands-on experience, learners install, configure, and manage VMware vSphere environments. Storage and networking concepts related to virtualization are examined. Upon completion of the course, learners will be prepared to take the VCP certification exam. PREREQUISITES: 150-110 - Network Admin Microsoft Server 2 2016

**150-194**
**Network Security** **3.00**

Students will learn how to maintain security in the workplace. Security plans will be created based on, but not limited to, ten key security technologies: access control, network security, management security procedures, systems development security, cryptography, security models, operations security, disaster recovery, laws and ethics, and physical security.

**150-198**

**Interconnecting Cisco Network Dev P1**    **1.00**

640-822 ICND1: Interconnecting Cisco Networking Devices Part 1, this course focuses on providing the skills and knowledge necessary to install, operate, and troubleshoot a small branch office Enterprise network, including configuring a switch, router, and connecting to a WAN and implementing network security. A student should be able to complete configuration and implementation of a small branch office network under supervision. PREREQUISITES: 150-124 - Routing CCNA 2 with a minimum grade of C or TR

**150-199**

**Interconnecting Cisco Network Dev P2**    **1.00**

640-816 ICND2: Interconnecting Cisco Networking Devices Part 2 this course focuses on providing the skills and knowledge necessary to install, operate, and troubleshoot a small to medium-size branch office Enterprise network, including configuring several switches and routers, connecting to a WAN and implementing network security. PREREQUISITES: 150-135 - Switching and Wan's - CCNA 3 and 4 with a minimum grade of C or TR

**150-301**

**Networking Principles**    **2.00**

This course will provide you with networking concepts. Topics will include the OSI model, wireless, security, topologies, basic router setup and switch configuration, network connectivity, and hardware and software configurations. You will also learn how to create local area networks. Individuals will learn real-world skills related to employemnt.

**152-080**

**Databases**    **3.00**

In this course, students explore concepts, design, documentation, and implementation of various database systems, including proprietary and open source technologies. Students implement Structured Query Language (SQL) to store, retrieve, and manipulate data. Students create queries, normalize database structures, and create stored procedures. Upon completion of this course, students will be prepared to develop and maintain databases used in application development. PREREQUISITES: 152-081 - Programming in Python

**152-081**

**Programming in Python**    **3.00**

In this course, students investigate the fundamentals of computer programming using the Python programming language. Students examine data types, variables, conditional statements, looping, array structures, and structured programming techniques. Upon completion of the course, students will be able to use Python to apply problem solving skills to create applications for delivery to various platforms.

**152-082**

**Web Developer Orientation**    **1.00**

In this course, students examine skills required for web developer success. They identify academic and professional goals and analyze their readiness to engage in studying web development. Students explore elements of the program including supporting coursework, internships, career services, and professional activities. Upon completion of the course, students will have a strategic plan for developing and showcasing their web development skills. COREQUISITES: 152-182 - Web Programming 1 prior or concurrently

**152-083**

**Web Developer Project**    **3.00**

In this course, students examine the fundamental concepts of project management for web projects. Students implement the full project management life cycle, from the basics of getting started (defining the project and scope, prioritizing and estimating features) to developing and deploying the website. Students practice: user interface design, marketing strategies, secure web hosting and domain names, and search engine optimization techniques. Upon completion of this course, students apply project management skills to create a website or application, which they can add to their portfolio, for a business or industry client. PREREQUISITES: 152-150 - Web Programming 2, 152-188 - PHP Web Programming, and 801-197 - Technical Reporting prior to or concurrently

**152-085**

**Java Web Internship**    **1.00**

This course establishes an opportunity for the student to apply training and skills in a business/industrial academic work environment. The student will spend 36 hours at the worksite and contracts with the employer and the instructor regarding the work agreement and competencies. Classroom hours will include preparation of job protfolio materials and practicing interview techniques. COREQUISITES: 152-150 - Web Programming 2

**152-086**

**Review for Java Certification Exam**    **1.00**

This course helps prepare an individual for the Oracle Java certification exam. The focus of the reviw will be on the topic areas of the certification exam: java basics, java datatypes, operators and decision constructs, arrays, loop constructs, methods and encapsulation, inheritance, handling exceptions and the Java API. This is a one credit review class and not a hands-on lab class. COREQUISITES: 152-174 - Java Programming 2

**152-087**

**Review for Exam MTA 98-364 (Database)**    **1.00**

This course helps prepare an individual for the Microsoft Technology Associate (MTA) Database Fundamentals certification exam. The focus of the review will be on the five topic areas of the certification exam: understanding core database concepts, create database objects, manipulate data, understand data storage and administer a database. This is a one credit review class and not a hands-on lab class. COREQUISITES: 152-146 - Databases, Advanced

**152-088**

**Programming Logic**    **1.00**

This course introduces the student to the program development and design process, including computer-based concepts of problem-solving, structured programming logic and techniques, algorithm development, pseudocoding and program design. Enrolled students acquire a set of specific computer programming skills as they learn to think like programmers.

**152-089**
**AP Computer Science A Java Programming** 4.00

This course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object oriented and imperative problem solving and design using Java language.

**152-093**
**IBM Advanced Java Programming** 3.00

This course will introduce dynamic web application development using Java Servlets and JSP technologies. Moreover databases in web applications and the Java Database Connectivity (JDBC) API will also be covered. Students will also be learning to program Java Applications using XML (Extensible Markup Language), multithreading, I/O, and network programming. Students will be learning to develop N-Tier e-Business applications. PREREQUISITES: 152-141 - Java Programming - IBM Systems and 152-145 - Internet Programming with a minimum grade of C or TR

**152-094**
**IBM Servers Configuration and Security** 3.00

Servers covered will include WebSphere, Apache and ZendServer for IBM servers. Topics included will be installation, configuration and proper security of the servers as well as the IFS file system. PREREQUISITES: 152-149 - IBM i System Administration with a minimum grade of C or TR

**152-096**
**Developing ASP.NET Web Apps 2** 3.00

This course will prepare students to develop advanced ASP.NET web applications that utilize the Model View Controller (MVC) architecture. Students will enhance their C# programming skills to power server-side, data-driven web sites, including database integration and migrations. Learners will create advanced user interfaces, integrate advanced HTML/CSS/JavaScript code, apply security and authorization techniques, optimize applications for Search Engine Optimization (SEO), and explore integration with SharePoint and cloud-based services. Skills learned will be demonstrated by completing a programming project. PREREQUISITES: 152-178 - Developing ASP.NET Web Apps with a minimum grade C

**152-097**
**Javascript** 3.00

This course will introduce students how to add intuitive, dynamic and animated interaction between their web pages and visitors. Using HTML.5 as a base, we will use Javascript, Ajax, and jQuery library to react to user actions and change webpage structure, content, and appearance. Through this course, students will learn how to dynamically refine, design appearance, control and manipulate HTML elements via the DOM API, and create content within a medium that is used for both desktop and mobile device computing. PREREQUISITES: 152-182 - Web Programming 1

**152-105**
**IBM Enterprise Systems Concepts** 2.00

System i Concepts will provide an overview of the i5 Operating System functions and capabilities. Emphasis will be placed upon utilities intrinsic to the operating system and provide a prelude to the programming environment. Some of the features discussed are file structures, library organization, application development tools, control language commands, and structured query. The course will demonstrate business applications without the use of formal programming languages. The labs will focus on data collection, processing, and reporting. At the end of the course, the learner should be able to access the user support facilities, command prompting, online help, and various commands to organize and manipulate the system. It is the intent of the course to make the learner knowledgeable and comfortable enough with the platform and operating system to focus on the programming languages supported by i5/OS Operating System. COREQUISITES: 107-011 - IT in Business

**152-110**
**DBA Part 1 - Oracle** 3.00

This course is designed to give students a firm foundation in basic administration of a large database. In this class, students learn how to install and maintain Oracle Database 11g. Students gain a conceptual understanding of the database architecture and how its components work and interact with one another. Students learn how to create an operational database and properly manage the various structures in an effective and efficient manner including performance monitoring, database security, user management, and backup/recovery techniques. In addition to learning the various commands needed to perform the DBA tasks, the course also provides students with instruction to perform the same DBA tasks using the Graphical User Interface tools. The lesson topics are reinforced with structured hands-on practices.

**152-122**
**Computer Programming RPG/IV (ILE)** 3.00

Business oriented programming language. Topics include: specification forms, logic cycle, RPG structure commands, physical and logical file structures, externally described printer files, table and array processing, joined logical files, multiple physical files, extensive programming and documentation of business related applications. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts 152-133 - IBM Control Language 801-136 - English Composition 1 AND course 804-135 - Quantitative Reasoning or 804-115 - College Technical Math 1

**152-124**
**Computer Programming C** 3.00

Learn the principles of object oriented programming using C++. Topics include: formatted 1/10 streams, variables, constants, references, functions, decisions, loops, classes, objects, inheritance, memory management, libraries, and error handlers. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts

**152-125**
**Computer Programming RPG/IV (ILE), Adv** 3.00

Describe and define syntax for constructing online business applications using IBM's High Level Language RPG/400. Competencies learned in RPG/400 are enhanced with additional focus on the following topics: creating sub-file structures,

interactive programming techniques, use of arrays and matrixes, creating and using Help screens, introduction to group update techniques and to DB2 relational database. PREREQUISITES: 152-122 - Computer Programming RPG/IV (ILE)

**152-126**
**Programming and Database, Introduction to Concepts** 4.00

This class will introduce students to the structures, logic, and controls of programming techniques and database applications. Students will be able to develop a program that will utilize a database.

**152-127**
**DBA - Part 2 - Oracle** 3.00

This Oracle 11g database course takes the student beyond the basic tasks of database administration. The student begins by gaining a much deeper understanding of possibly the most important job of a DBA backup and recovery. The concepts and architecture that support backup and recovery, along with the steps of how to carry it out in various ways and situations, are covered in detail. This includes how to define and test your own backup and recovery scenarios. Also, the student learns how to manage memory effectively and how to perform some performance evaluation and tuning tasks, including using some of the advisors. Flashback technologies, scheduling jobs inside and outside of the database, and controlling system resource usage are also covered. The lesson topics are reinforced with structured hands-on labs. PREREQUISITES: 152-110 - DBA Part 1 - Oracle

**152-128**
**DBA - Part 3 - Oracle** 3.00

In this Oracle 11g database course students learn how to use Oracle Database 11g automatic tuning features such as SQL Tuning Advisor, SQL Access Advisor, Automatic Workload Repository and Automatic Database Diagnostic Monitor, and practice these tuning methods. The course focuses on the tuning tasks expected of a DBA: reactive tuning of SQL statements, maintaining SQL statement performance, and tuning the Oracle Database Instance components. Throughout the course, students practice the art of tuning an Oracle Instance through a series of workshops. The methodology is practiced in the workshops rather than taught. PREREQUISITES: 152-110 - DBA Part 1 - Oracle

**152-129**
**Web Project Management** 2.00

This course covers the fundamentals of project management for web projects. The course covers the full project management lifecycle, from the basics of getting started (defining the project and scope, prioritizing and estimating features) to developing and deploying the website. In this course the students will work with a business client to design, develop and deploy a website. PREREQUISITES: 152-150 - Web Programming 2

**152-131**
**Systems Design and Development** 3.00

Introduction to systems development and design concepts. Survey of business applications and their relationship to computers. Students will develop a business system and its associated documentation. PREREQUISITES: 152-122 - Computer

Programming RPG/IV (ILE) with a minimum grade of C or TR

**152-133**
**IBM Control Language** 2.00

AS/400 Control Language (CL) commands, functions, and applications are used in a hands-on environment. PREREQUISITES: 152-105 - IBM Enterprise Systems Concepts

**152-138**
**Java, Introduction to** 3.00

This course provides an introduction to all core aspects of Java. Students will be provided an overview of Java, Object Oriented programming concepts, GUI components, threading, development tools, error handling, and graphics. Java Language has become the preferred choice for Application Development, Internet solutions, and e-business solution development. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts and 152-148 - Web Programming Concepts

**152-139**
**Ruby on Rails** 3.00

This course introduces the student to the Ruby a popular, open-source, dynamic object-oriented scripting language, and the Rails Application framework based on an MVC architecture. Topics will include installing Ruby and Rails, an introduction to the Ruby programming language, an overview of the Rails framework, ActiveRecord basics, ActionController coding, Action Views, AJAX and the Web 2.0 Action mailer basics, security, deployment and scaling. Students will produce a very modern web application that can be adapted

to many professional web development needs. PREREQUISITES: 152-188 - PHP Web Programming

**152-140**
**Web Internship** 3.00

This course establishes an opportunity for the student to apply training and skills in a business/industrial/academic work environment. The student will spend 144 hours at the worksite and contracts with the employer and the instructor regarding the work agreement and competencies. Classroom hours will include preparation of job portfolio materials and practicing interview techniques. COREQUISITES: 152-146 - Databases, Advanced

**152-141**
**Java Programming - IBM Systems** 3.00

This course introduces the new learner to the Java programming language, specifically as it relates to the IBM iSeries platform. Specific iSeries subjects covered will include using WebSphere Development Studio, accessing AS/400 objects from Java, working with AS/400 databases, and building AS/400 graphical applications. PREREQUISITES: 152-105 - IBM Enterprise Systems Concepts and 152-126 - Programming and Database, Introduction to Concepts

**152-145**
**Internet Programming** 3.00

This introduction to web programming will explore a variety of tools used for web page creation. An introduction to client side internet website programming, this course covers HTML, CSS, DHTML, and JavaScript. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts

**152-146**

**Databases, Advanced**      **3.00**

This course offers students an introduction to enterprise data server technology. The class covers the concepts of both relational and object relational databases and the powerful SQL programming language. Students are taught to create and maintain database objects and to store, retrieve, and manipulate data. Demonstrations and hands-on practice reinforce the fundamental concepts. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts or 152-184 - Java Programming 1

**152-148**

**Web Programming Concepts**      **3.00**

This course teaches students essential Web page development skills. Students will learn to develop websites using HTML, XHTML and CSS. Students will learn how to write code manually as well as use a GUI authoring tool. Students will also learn to insert images, create hyperlinks, and add tables, forms and frames to web pages. Other topics include validating their code, recognizing the importance of marketing, and implementing fundamental design concepts. Students will learn how to control web resources with client-side web scripts. They will also learn how to analyze elements of a website that will add to its functionality from a client-side perspective.

**152-149**

**IBM i System Administration**      **3.00**

This course is designed to prepare the student for a junior IBM i administrator position. After completing this course the student will have a in-depth understanding of the IBM i operating system as well as the ability configure hardware and software on the system. This course provides the student with hands-on exercises configuring IBM i software and hardware.

**152-150**

**Web Programming 2**      **3.00**

This course provides an introduction to HTML, CSS, and JavaScript. The course focuses on using HTML/CSS/JavaScript to apply programming logic, define and use variables, perform looping and branching, develop user interfaces, capture and validate user input, store data, and create well-structured applications. This course will help prepare students for exam 70-480. PREREQUISITES: 152-182 - Web Programming 1 AND 152-097 - Javascript with minimum grade of C

**152-151**

**Microcomputer Programming Advanced**      **3.00**

A class in advanced microcomputer programming techniques. This class will examine trends in microcomputer program development including: use of objects, database access, receiving user input, displaying output, error handling, application controls, and online assistance. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts

**152-156**

**Web Applications ASP.Net**      **3.00**

This course will prepare the student to develop web sites with ASP.NET. Course work includes hands on development and problem solving utilizing Visual Basic based code; XML structure and Active Server Page scripting; accessing and managing databases through ASP.NET; exploring web access features and the power of this cutting edge development tool. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts

**152-157**

**Game Programming I**      **3.00**

This course is an introduction to computer game programming. Students will create their own computer games utilizing development tools. Through hands-on work students will learn how to develop a typical game. Topics include graphics, game design, bitmaps, sprites and backgrounds. Students will design, implement, and test interactive computer games. This course requires prior computer programming skills. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts

**152-158**

**DB2 UDB Programming and Stored Procedures**      **3.00**

Exploring the powerful programming features of RDBMS is required in developing enterprise wide applications. This course provides a comprehensive review of DB2 programming using Java, embedded SQL, and stored procedures. This course also discusses advanced RDBMS concepts. This course may only be offered by authorized e-business application advanced career education program providers with IBM authorized instructors, software, and hardware. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts and 152-105 - IBM Enterprise Systems Concepts

**152-160**

**Game Engine Development**      **3.00**

This course develops a working engine for a computer game. After completing this advanced class, student will be able to develop usable working game engine. Students will learn about rendering graphics, supporting modules, audio interfaces, network interfaces and game engine design. A knowledge of C++ is required to successfully complete this class. PREREQUISITES: 152-157 - Game Programming I

**152-161**

**Game Programming Technologies**      **2.00**

This class examines modern technologies for computer game development. Students will learn how to install development components. In addition, students will learn how to draw game elements. PREREQUISITES: 152-157 - Game Programming I

**152-164**

**Mobile Device Application Programming**      **3.00**

This course teaches students to develop applications for mobile platforms. Students will utilize a Software Development Kit (SDK) to develop working applications. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts or 152-184 - Java Programming 1

**152-165**

**Mobile App Development Apple iOS**      **3.00**

This hands-on course introduces software developers to iOS Programming. You will learn how to use tools such as Xcode and Interface Builder to write applications

for all iOS devices: iPhone, iPod Touch, and iPad. After reviewing the Objective-C programming language, the course will cover iOS concepts such as tables, persistent storage, views, view controllers, controls and device features such as location, touch and alert handling. PREREQUISITES: 152-124 - Computer Programming C with a minimum grade of C or TR

**152-166**
**Mobile Application Development Windows** **3.00**

This hands-on training course introduces students to application development for the Windows Phone operating system. This course requires some knowledge of programming fundamentals, however will teach students programming concepts in the framework of Windows Phone 7 development. Students will be introduced to Windows Phone Application Development environment/tools and fundamental concepts of Windows Phone. Students will also be introduced to Silverlight and XNA Frameworks. Students will also learn about user interface design, execution model, frame and page navigation, themes, isolated storage, lauchers and choosers, performance, security, data services, and Windows Phone Marketplace. PREREQUISITES: 152-126 - Programming and Database, Introduction to Concepts with a minimum grade of C or TR

**152-167**
**Zend (PHP) Application Prog - IBM SYS** **3.00**

Topics covered include techniques for modernizing traditional applications using i5 Toolkit Utilizing DB2 Storage Engine for mySQL. Development techniques necessary

for the full PHP application lifecycle using a comprehensive set of editing, debugging, analysis, optimization, database tools and testing. Zend Studio for Eclipse i5 Edition. PREREQUISITES: 152-141 - Java Programming - IBM Systems with a minimum grade of C or TR

**152-168**
**IBM and .NET Enterprise Programming** **3.00**

Topics covered include advanced .NET tools for creating front end applications for the IBM i. Additional topics include database access using ADO.NET and ASP.Net, XML, Multithreaded and Parallel Programming. The course will also examine advanced .NET topics like WPF and LINQ. PREREQUISITES: 152-151 - Microcomputer Programming Advanced with a minimum grade of C or TR

**152-169**
**Intermediate Java** **3.00**

This course provides Web Developers greater depth into the Java programming language utilizing some of the more advanced capabilities. PREREQUISITES: 152-138 - Java, Introduction to

**152-170**
**IT WEB Project Lab I** **4.00**

In this lab course students will apply their knowledge and skills of Visual Basic Programming and HTML to develop project(s) for business clients. This class will provide students with additional lab time to be mentored by instructors and work with their peers on hands-on projects which are designed to further develop their technical competencies in these areas.

**152-171**
**IT Web Project Lab 2** **5.00**

In this lab course students will apply their knowledge and skills of HTML, CSS, JavaScript, Java, C+, and SQL to develop project(s) for business clients. This class will provide students with additional lab time to be mentored by instructors and work with their peers on hands-on projects which are designed to further develop their technical competencies in these areas.

**152-172**
**IT Web Project Lab 3** **5.00**

In this lab course students will apply their knowledge and skills of HTML, CSS, JavaScript, PHP, MySQL and Java to develop projects(s) for business clients. This class will provide students with additional lab time to be mentored by instructors and work with their peers on hands-on projects which are designed to further develop their technical competencies in these areas.

**152-173**
**IT Web Project Lab 4** **5.00**

In this lab course students will apply their knowledge and skills of HTML, CSS, JavaScript, ASP.NET, and SharePoint Programming to develop project(s) for business clients. This class will provide students with additional lab time to be mentored by instructors and work with their peers on hands-on projects which are designed to further develop their technical competencies in these areas.

**152-174**
**Java Programming 2** **3.00**

This course focuses on the advanced language features of Java. Topics will

include Java servlets, database access with Java Database Connectivity (JDBC), JavaServer Pages and JavaBeans. A portion of the class deals with application design issues in a web environment as well as connecting to a backed database server. Labs and hands-on projects are a required element to this class and provide the student with experience working with the more advanced features of the Java language. PREREQUISITES: 152-184 - Java Programming 1 with a minimum grade of C or TR

**152-175**
**MCSD HTML w JavaScript and CSS Review** **1.00**

This course helps prepare an individual for the MCSD HTML with JavaScript and CSS certification exam. This is the first of four exams that must be passed for an individual to achieve the Microsoft Certified Sharepoint Developer certification. PREREQUISITES: 152-150 - Web Programming 2 with a minimum grade of C or TR

**152-176**
**Adv Prog Sharepoint Solutions** **3.00**

In this course students will learn the information needed to implement SharePoint solutions using Enterprise Scarch, Managed Metadata Service (MMS), Business Connectivity Services (BCS), Enterprise Content Management (ECM), Web Content Management (WCM), Social computing features and SharePoint Apps. This course will help prepare students for exam 70-489. COREQUISITES: 152-177 - Core Prog Sharepoint Solutions

**152-177**

**Core Prog Sharepoint Solutions    3.00**

In this course students will cover core skills that are common to almost all SharePoint development activities. Including working with the server- and client-side object models, developing and deploying features, solutions and apps, managing identity and permissions, querying and updating list data, managing taxonomy, using workflow to manage business processes, and customizing the user interface.This course will help prepare students for exam 70-488. PREREQUISITES: 152-178 - Developing ASP.NET Web Apps with a minimum grade of C or TR

**152-178**

**Developing ASP.NET Web Apps    3.00**

In this course students will learn to use .NET Framework tools and technologies to develop advanced ASP.NET MVC applications. The focus will be on coding activities that improve performance and scalability of Web site applications. ASP. NET MVC will be introduced and compared with Web Forms so that students know when each should/could be used. This course will help prepare students for exam 70-486. PREREQUISITES: 152-182 - Web Programming 1 minimum grade of C AND course 152-097 - Javascript or 152-184 - Java Programming 1 or 152-081 - Programming in Python minimum gradeoof C

**152-179**

**MSCD ASP.NET MVC Review    1.00**

This course helps prepare an individual for the MCSD ASP.NET MVC Web Applications certification exam. This is the second of four exams that must be passed for an individual

to achieve the Microsoft Certified SharePoint Developer certification. PREREQUISITES: 152-178 - Developing ASP.NET Web Apps with a minimum grade of C or TR

**152-180**

**MCSD Server Advanced Review    1.00**

This course helps prepare an individual for the MCSD Server Advanced Solutions certification exam. This is the last of four exams that must be passed for an individual to achieve the Microsoft Certified SharePoint Developer certification. PREREQUISITES: 152-176 - Adv Prog Sharepoint Solutions with a minimum grade of C or TR

**152-181**

**MCSD Server Core Review    1.00**

This course helps prepare an individual for the MCSD Server Core Solutions certification exam. This is the third of four exams that must be passed for an individual to achieve the Microsoft Certified SharePoint certification. PREREQUISITES: 152-177 - Core Prog Sharepoint Solutions with a minimum grade of C or TR

**152-182**

**Web Programming 1    3.00**

This course teaches students essential Web page development skills. Students will build an understanding of how to manage the Application Life Cycle, build the User Interface by Using HTML5, and format the User Interface by Using CSS. Other topics include validting HTML and CSS code, recognizing the importance of marketing, and implementing fundamental design concepts. COREQUISITES: 152-082 - Web Developer Orientation

**152-183**

**Review MTA 98-375 Exam    1.00**

This focused course helps prepare a student to take the HTML.5 Application Development Fundamentals: MTA Exam 98-375. the Microsoft Technology Associate exam focuses on the areas of Managing the Application Life Cycle, building the User Interface by Using HTML.5, formatting the User Interface by Using CSS, and Coding by Using JavaScript. PREREQUISITES: 152-182 - Web Programming 1 with a minimum grade of C or TR

**152-184**

**Java Programming 1    3.00**

The course introduces the student to the fundamentals of object-oriented programming using the Java programming language. Students will learn the core aspects of Java including how to write and debug Java code. Labs and hands-on projects are a required element to this class and provide the student with experience working with the Java language. COREQUISITES: 804-135 - Quantitative Reasoning or 804-115 - College Technical Math 1

**152-185**

**Advanced PHP    3.00**

This course prepares the student to develop advanced PHP and MySQL web applications. Students will learn advanced techniques for session management, validation, and authentication. Advanced web application features such as shoppping carts, content management using Drupal, web forums and connecting to web services are discussed. PREREQUISITES: 152-188 - PHP Web Programming minimum grade C AND 804-135 - Quantitative Reasoning

or 804-115 - College Technical Math 1 minimum grade C

**152-186**

**Mobile Game Programming    3.00**

This class is designed to give students a foundation for writing games on mobile devices. PREREQUISITES: 152-157 - Game Programming I

**152-187**

**Web Developer/Administrator Orientation    1.00**

Students develop skills to enhance their success in the Gateway Technical College Web Developer/Administrator program and their career. These skills include self-assessment, time management, study skills, learning styles, and stress management. Students research the Web Programming/Administrator field through the Internet, periodicals, and surveys. Students design an academic and career developmeent plan and initiate their ongoing program portfolio.

**152-188**

**PHP Web Programming    3.00**

This hands-on PHP Web Programming course provides the knowledge necessary to design and develop dynamic, database-driven web pages. Students will learn how to write and debug PHP code, how to effectively use many of its powerful features, and how to design and build their own PHP web applications. Students will design and create a Web Database using the popular MySQL DBMS to function as a backend database for their PHP website. PREREQUISITES: 152-182 - Web Programming 1 with a minimum grade of C

AND course 152-184 - Java Programming 1 or 152-081 - Programming in Python minimum grade C

**152-189
Graphics Programming with Dynamic Elemen** **3.00**

This advanced course uses the languages and elements introduced in the prerequisite and extend the dynamic interaction and animation of HTML5 and Javascript. Students will use JQuery and Ajax Animator to create animations; use still and video motion to further enrich dynamic websites that could be used for desktop and mobile computing alike. Students will use Web based Object Oriented programming to create interactive projects. PREREQUISITES: 152-190 - Elements of Dynamic Web Design

**152-190
Elements of Dynamic Web Design** **2.00**

This course will introduce students to how to add intuitive, dynamic and animated interaction between their webpages and its visitors. Using HTML5 as a base, we will be using the universal languages of Javascript and Ajax to react to user actions and change webpage structure, content, and appearance. Through this course, we will learn how to dynamically refine design appearance and create content within a medium that is used for both desktop and mobile device computing. PREREQUISITES: 152-182 - Web Programming 1 and 152-187 - Web Developer/Administrator Orientation with a minimum grade of C or TR

**152-193
Dynamic Web Applications - Macromedia** **3.00**

The student will design and develop a dynamic web application using a popular WYSIWYG environment. The focus will be on development of an interactive data driven web site. PREREQUISITES: 152-192

**152-194
SQL Fundamentals - Oracle** **3.00**

This course introduces students to the fundamentals of SQL using Oracle Database 11g database technology. In this course students learn the concepts of relational databases and the powerful SQL programming language. This course provides the essential SQL skills that allow developers to write queries against single and multiple tables, manipulate data in tables, and create database objects. The students also learn to use single row functions to customize output, use conversion functions and conditional expressions and use group functions to report aggregated data. Demonstrations and hands-on labs reinforce the fundamental concepts. This course counts towards the Hands-on course requirement for the Oracle Database 11g Administrator Certification.

**154-109
Computer Support Specialist Internship** **3.00**

Establishes an opportunity for the student to apply training and skills in a business/ industrial/ academic work environment. The student will spend 144 hours at the worksite. Student contracts with the employer and the instructor regarding the work agreement and competencies. Classroom hours will include preparation of job portfolio materials

and practicing interview techniques. COREQUISITES: 154-113 - IT Apps Server and Support and 154-114 - Hardware and Software Support

**154-112
Data Security and Recovery Support** **3.00**

Focus will be on desktop data security, data retention and recovery. Students will be introduced to computer forensics / data recovery tools, local security issues, disaster recovery plans and legal data requirements (i.e. HIPPA requirements, Sarbanes-Oxley Act, etc.). PREREQUISITES: 154-114 - Hardware and Software Support with a minimum grade of C AND course 804-135 - Quantitative Reasoning or 804-115 - College Technical Math 1

**154-113
IT Apps Server and Support** **3.00**

Students will learn to resolve operating system and application issues by telephone, remote access, or by visiting an end user's desktop. Students will gain a working knowledge of operating in a workgroup and a client/server environment. NOTE: This course will help prepare the student to take the Microsoft Certified Desktop Technician Exam 70-272. PREREQUISITES: 154-114 - Hardware and Software Support with a minimum grade of C or TR

**154-114
Hardware and Software Support** **3.00**

Students will learn to resolve hardware and software issues in a multiplatform environment. Students will troubleshoot and repair various systems and applications,

as well as desktop issues. NOTE: This course will help prepare students to attain certifications if desired. PREREQUISITES: 154-119 - System Software Support and 107-193 - IT Essentials with a minimum grade of C or TR

**154-116
Emerging Technologies and Applications** **2.00**

Students will research, explore and evaluate new and future hardware and software advancements and trends. Areas to investigate may include contemporary package development applications, collaboration tools, reporting software, and innovative equipment and hardware, as well as new versions of current standards in software and applications. PREREQUISITES: 154-112 - Data Security and Recovery Support with a minimum grade of C

**154-118
CSS Skills Implementation and Career Prep** **3.00**

This capstone class will provide students with opportunities to apply knowledge and concepts acquired in program coursework. Students will develop proficiency while resolving issues in a simulated, scenario-based environment. In addition to reinforcement of concepts previously covered in the curriculum, the course will include employment seeking skills (resumes, portfolios, interviewing), image creation and deployment, and remote desktop diagnostics/troubleshooting. PREREQUISITES: 154-113 - IT Apps Server and Support with a minimum grade of C

**154-119**

**System Software Support** 3.00

Focus will be on the principles of system software and utilities. This course will enable the learner to effectively configure and troubleshoot system software in multiple environments. Students will be introduced to integrated tools within the software and the different methods for interacting with system software. Topics will include Windows command-line, Linux GUI and command-line, emulation/connectivity to other non-PC-based systems and network directory services. COREQUISITES: 154-121 - CSS Program Orientation and 801-136 - English Composition 1

**154-120**

**Advanced Help Service Desk** 3.00

This capstone class broadens the students' customer service skill set. The course continues to build on end user communication methods, both oral and written. Students will be exposed to Information Technology Infrastructure Library (ITIL) methodology and Help Desk Institute (HDI) best practices. PREREQUISITES: 154-122 - Help Service Desk, Intro

**154-121**

**CSS Program Orientation** 1.00

Students will develop skills to enhance their success in the Gateway Technical College Computer Support Specialist program and their career. These skills include self-assessment, time management, study skills, learning styles, and stress management. Students research the CSS field through the Internet, periodicals, and surveys. Students will design an academic and career development plan and initiate their ongoing program portfolio.

**154-122**

**Help Service Desk, Intro** 3.00

This class broadens the students' customer service skill set. The course continues to build on end user communication methods, both oral and written. Students will be expected to prepare and deliver end user training, create written and online manuals and FAQ's (Frequently Asked Questions), and perform the day-to-day duties in a variety of help desk environments. PREREQUISITES: 107-193 - IT Essentials with a minimum grade of C COREQUISITES: 804-135 - Quantitative Reasoning or 804-115 - College Technical Math 1

**154-124**

**Support Technician Internship** 1.00

This course provides an opportunity for the student to apply training and skills in a business/industrial/academic work environment. The student will spend 36 hours at the worksite and contracts with the employer and the instructor regarding the work agreement and competencies. Classroom hours will include preparation of job portfolio materials and practicing interview techniques.

**154-125**

**HDI-SCA Certification Review** 1.00

This course focuses on reviewing the material covered in the certification exams that a student must pass to achieve their Help Desk Institute Support Center Analyst (HDI-SCA) certification. This class is intended for students who want to review the HDI Standards.

**154-126**

**IT Project Management Essentials** 1.00

This course prepares the student for a foundation in project management. Content includes project management principles, leadership, and team building.

**154-127**

**Introduction to IT Troubleshooting** 2.00

This course introduces the student to the process of basic troubleshooting of computing problems. Topics covered will include: computer-based concepts of problem-solving, structured diagnosis and resolution techniques, and professional communication practices. Enrolled students acquire basic IT customer support skills as they begin their journey to becoming an IT support technician.

**182-101**

**Supply Chain Management** 3.00

The Supply Chain Management course is designed to examine Supply Chain Management Fundamentals; Procurement, Manufacturing and Operations Management, Transportation and Logistics,Inventory and Warehousing, Demand Planning, Scheduling an Performance Management or Analysis. Topics include creating and executing supply chain strategies that meet customer needs and increase profits; learning how successful supply chain management adds value to your organization; understanding customer loyalty and the lifetime value of a customer; understanding the role of data and information technology in support of the supply chain; and exploring the IT infrastructure as it relates to suply chain management systems.

**182-102**

**Logistics** 3.00

This course prepares the students to be able to explain the historical and economic significance of transportation in US and world economies, utilize the correct transportation terminology, analyze the operating and service characteristics of the five major modes of transportation, differentiate cost and pricing structures of five major modes of transportation, decide the best mode of transportation to use for specific shipments, analyze the forms of special transportation services, and analyze the information technology systems used in the transportation industry. Students in this class will learn the language and benefits of efficient transportation and warehousing strategies.

**182-103**

**Global Supply Chain Management** 3.00

This course introduces the student to supply chain financial transactions which include foreign exchange market, fluctuations of the market, role of the global capital market, major determinants in country risk, methods of foreign market entry, international contracts and commercial documents, export packaging, customs clearance, and global supply chain logistics infrastructure. PREREQUISITES: 182-101 - Supply Chain Management with minimum grade C

**182-106**

**Enterprise Resource Planning and Control** 3.00

This course will provide the fundamentals of enterprise resource planning (ERP) systems concepts, and the importance of integrated information systems in an organization. The focus of this course is on illustrating

procurement, production, and sales business processes using ERP software. This course introduces the world of ERP's to future Supply Chain employee's. The understanding of the benefits of technology use within the efficient movement of materials and products is essential in the world of Supply Chain. PREREQUISITES: 182-101 - Supply Chain Management 801-136 - English Composition 1 and 804-135 - Quantitative Reasoning with a minimum grade of C

**182-107**
**Supply Chain Internship          3.00**
This course is an occupational experience opportunity within the district for students in their final semester of the Supply Chain Management degree. Instructor consent is mandatory prior to registration for this course. The course will include work related observation and written reports to the program faculty regarding the practical application of what is learned in the Supply Chain Management Program.

**182-108**
**Purchasing          3.00**
This course includes an analysis of the purchasing process, a review of purchasing activities, and identification of purchasing problems in modern organizations. Attention is given to the role of purchasing in the organization, supplier selection, negotiation, sourcing issues, inventory management, and quality concerns.

**182-150**
**Lean Operating Principles and Techniques          1.00**
This course investigates how to improve quality, eliminate waste, reduce manufacturing lead time and inventory, and develop productive customer and supplier relationships. Also discussed are cycle time, kanban, demand-pull, and order push techniques to reduce inventory in an organization's supply chain.

**182-161**
**Basics of Supply Chain Management          3.00**
This course explains the basic concepts in managing the flow of materials in a supply chain. In the basics you get a complete overview of material flow, from internal and external suppliers and to and from your organization. It is designed to be preparation for APICS certification.

**182-162**
**Detailed Scheduling and Planning     3.00**
This course centers on the various techniques for material and capacity scheduling. This course includes demand planning (MRP), capacity requirements planning (CRP), inventory management practices, and procurement practices. It is designed to be preparation for APICS certification.

**182-164**
**Master Planning of Resources     3.00**
This course explores processes used to develop sales and operations plans and identify and assess demand and forecasting requirements. The course focuses on the

importance of producing achievable master schedules that are considering resource constraints. It is designed as preparation for APICS certification.

**196-123**
**Problem Solving and Decision Making          2.00**
Practice sessions on problems faced on the job, problem resolution using various techniques learned in the classroom. Topics: marginal analysis; psychological decision making; cause and effect; intuition; experimental, past experience and follow-the-leader approaches, group problem-solving techniques.

**196-129**
**Management Orientation          1.00**
This course will introduce the student to the skills necessary to be successful in the Supervisory Management and Business Management programs. The language and navigation of the accelerated learning model will be explored. The student will demonstrate the use of Blackboard and Mind Mapping as well as the software used in the program such as Microsoft Word, PowerPoint and use of the internet as a research tool. This is the first course a student should take within the Supervisory Management and Business management programs.

**196-133**
**Negotiations          3.00**
This course introduces techniques and skills used in bargaining to maximize a company's profits and competitiveness for both domestic and global concessions.

Interpersonal negotiations skills are essential for any person working in the business world. Students will be introduced to an interest based negotiations strategy and to conflict resolution techniques that will prove valuable throughout one's personal and professional life.

**196-134**
**Legal Issues for Supervisors          3.00**
In Legal Issues for Supervisors, the learner applies the skills and tools necessary for a supervisor to effectively function in today's legal work environment. Each learner will demonstrate the application of legal practices in both union and nonunion environments, the analysis of the impact of U.S. employment laws, the impact of the global economy, and the appeal process. Students will also learn to deal with harassment and privacy issues and summarize legal issues facing contemporary supervisors. COREQUISITES: 196-193 - Human Resource Management minimum grade C

**196-136**
**Safety in the Workplace          3.00**
In Safety in the Workplace, the learner applies the skills and tools necessary to provide a safe and secure work environment. Each learner will demonstrate the application of safety awareness, federal/state/local compliance, incident investigation and documentation, human relations techniques, safety orientation, inspections, risk analysis, issues of workplace violence, substance abuse, health hazards, first aid and CPR, fire and electrical safety, emergency preparedness, and liaison with external agencies.

**196-137**
**Certified Service Specialist** **3.00**

This course validates the students interpersonal and business skills by providing the necessary work to prepare for the certification exam to earn the Certified Service Specialist Certification. The exam is the final exam for the course and certifies the student's ability to work with customers. This course explores the skills of communications, policies and procedure manuals, record keeping and evaluating performance. Focus on teams and proper functioning roles within teams in a company setting that values ethical actions in the workplace and respect for the customer and fellow workers. Problem solving, interpersonal relationships and sales and marketing skills will be honed throughout this course. Successful students will be able to represent themselves with a national certification that illustrates their understanding of the skills necessary for the service and manufacturing industry as an employee or employer.

**196-138**
**Management for Supervisors Capstone** **2.00**

This course is designed to be the capstone of the Supervisory Management Program. This course validates the student's management skills by providing the necessary work to prepare for the certification exam to earn the Certified Service Manager Certification. The exam is the final exam for the course and certifies the student's ability to work with customers and team members. This course explores the knowledge of business management, project management and employee management. The student's mastery of skills in managing employees and teams are exemplified in change management, conflict resolution and

leadership skills. Students will explore basic financial reports and employee management. Successful students will be able to represent themselves with a national certification that illustrates their understanding of the skills necessary for management in the service and manufacturing industries as a supervisor. COREQUISITES: 196-168 - Organizational Development and 196-188 - Project Management minimum grade C

**196-151**
**Operations Management** **3.00**

This course is designed to acquaint students with the specialized vocabulary and problems encountered in manufacturing management. Tools and techniques for solving production process problems are presented with an emphasis on quality and productivity.

**196-155**
**Certified Customer Service** **1.00**

This course helps students build the necessary skills needed to be successful in working with internal and external customers. Students learn how to work with customers in a professional manner by providing world class customer service. The course prepares them for the ETA-I Customer Service Specialist (CSS) exam.

**196-164**
**Personal Skills for Supervisors** **3.00**

In Personal Skills for Supervisors, the learner applies the skills and tools necessary to deal with the time management, stress, and related challenges to a supervisor. Each learner will demonstrate the application of time management techniques, personal planning, continuous learning, valuing rights

and responsibilities of others, effective communication, assertiveness, and dealing effectively with stress.

**196-164A**
**Time Management** **1.00**

Teaches supervisors how to manage their time to become more effective on the job. Topics covered include: motivating through effective planning; job analysis; identification and elimination of time wasters; effective delegation of work; and how to set measurable, achievable goals.

**196-164B**
**Stress Management** **1.00**

Teaches supervisors how to identify, deal with and channel everyday stress constructively. Topics covered include: Type A versus Type B behavior patterns; causes of stress; personal and organizational stress; and conflict resolution techniques.

**196-164C**
**Assertive Behavior** **1.00**

In Assertive Behavior, the learner will apply the skills and tools necessary to be an effective supervisor in today's modern organization. Each learner will demonstrate assertiveness skills in communication with employees and others. In addition, the learners will demonstrate that the rights and responsibilities of others are valued.

**196-168**
**Organizational Development** **3.00**

In Organizational Development, the learner applies the skills and tools necessary to deal with organizational behavior and

change. Each learner will demonstrate the application of the impacts of globalization on an organization, dealing with organizational culture, change and future challenges affecting the total organization, organizational decision making, vision, goals, performance management, and planning, and the role of organizational structure. PREREQUISITES: 196-193 - Human Resource Management minimum grade C

**196-169**
**Diversity and Change Management** **3.00**

In Diversity and Change Management, the learner applies the skills and tools necessary to implement and maintain a diverse work environment which values change. Each learner will demonstrate the application of: assessing the current extent of diversity in the workplace; analyzing the effect of perceptions, attitudes, biases, and organizational culture on diversity; dealing with barriers; changing management strategies, processes, and reactions; measuring progress; and celebrating success. COREQUISITES: 196-193 - Human Resource Management minimum grade C

**196-188**
**Project Management** **3.00**

In Project Management, the learner applies the skills and tools necessary to design, implement, and evaluate formal projects. Each learner will: demonstrate the application of the role of project management; develop a project proposal; use relevant software; work with project teams; sequence tasks; chart progress; and deal with variations, budgets, resources, implementation, and assessment.

**196-189**
**Team Building and Problem Solving  3.00**

In Team Building and Problem Solving, the learner applies the skills and tools necessary to facilitate problem solving in a team environment. Each learner will demonstrate the application of the benefits and challenges of group work, necessary roles in a team, stages of team development, different approaches to problem solving, consensus, a systematic process of problem definition, data acquisition, analysis, the development of alternative solutions, solution implementation, and evaluation.

**196-190**
**Leadership Development          3.00**

In Leadership Development, the learner applies the skills and tools necessary to fulfill his/her role as a modern leader. Each learner will demonstrate the application of: evaluating leadership effectiveness and organization requirements, using individual and group motivation strategies, implementing mission and goals, observing ethical behavior, developing personal leadership style and adaptation, understanding the impact of power, facilitating employee development, coaching, managing change, and resolving conflict effectively.

**196-191**
**Supervision          3.00**

In Supervision, the learner applies the skills and tools necessary to perform the functions of a frontline leader. Each learner will demonstrate the application of strategies and transition to a contemporary supervisory role, including day-to-day operations, analysis, delegation, controlling, staffing,

leadership, problem-solving, team skills, motivation, and training.

**196-192**
**Managing for Quality          3.00**

This course is designed to examine the role of the supervisor in assisting an organization to produce a quality product or service. The meaning and benefits of quality, the cost of quality, how to interact with customers, and problem solving tools for continuous improvement will be covered. PREREQUISITES: 196-129 - Management Orientation and 196-137 - Certified Service Specialist minimum grade C COREQUISITES: 801-136 - English Composition 1 and 804-135 - Quantitative Reasoning minimum grade C

**196-193**
**Human Resource Management          3.00**

This course establishes a foundation for development of employee effectiveness by focusing on the supervisor's role in understanding, communicating, and implementing organizational policies. The organizational topics covered include: employee hiring, training, performance management, contract compliance, employment law, employee assistance programs, and related topics that affect the supervisor's work group. PREREQUISITES: 196-192 - Managing for Quality 801-136 - English Composition 1 804-135 - Quantitative Reasoning minimum grade C

**203-120**
**Field Photography          2.00**

This course will explore the use of cameras, lenses and digital media as they apply to

newsworthy photography as well as location and nature photography. Students will learn how to get good shots in fast paced environments like sporting events. Special tools used in field of photgraphy will be examined. PREREQUISITES: 204-107 - Digital Photography/ Introduction to with a minimum grade of C or TR

**203-121**
**Studio Lighting and Tools          2.00**

Students will examine lighting, drapes, reflectors and special studio photography tools, for a variety of subjects. Shutter and aperture settings will be explained. Commercial photography, portraiture, food photography and macro photography will be explored. Students will plan photo shoots and coordinate all aspects of a shoot. PREREQUISITES: 204-107 - Digital Photography/ Introduction to with a minimum grade of C or TR

**204-100**
**Design Concepts          4.00**

Students will study typography, color, and layout. Studies include symmetrical and asymmetrical compositions, grid method systems, designing with type, image, and the graphic functions of typography. Students will develop an understanding of the basic design principles, including space, line, form, color, and the use of letterforms and design contrasts to convey a visual message. Students will be introduced to target markets and designing for an audience. Projects will be completed with various design media while exploring the importance of working in stages from research to rough idea to finished design work.

**204-105**
**Computer Illustration and Drawing Tech          3.00**

Students will use Vector Illustration software for technical drawing, composition and implementation of created art into print, web and social media. Students will incorporate traditional drawing skills and scanning methods into their digital illustration and drawings. Composition, digital color specification and current graphic design trends will be emphasized.

**204-107**
**Digital Photography, Introduction to          3.00**

This course explores the use of digital photography, desktop scanning and photo manipulation software in the creation of photo compositions and support materials for graphic design.

**204-109**
**Graphic Design Professional Practices          3.00**

This course introduces students to the workflow of graphic design, from the initial conceptualization of a project to the printed piece. Attention to customer needs, development of presentation materials, and cost estimates are discussed. Students will become familiar with graphic design, job titles and duties. Stress management and time management are incorporated into the course. Legal and ethical issues, as well as those involving copyrights and trademarks, are discussed. PREREQUISITES: 204-140 - Design, Publishing and Prepress with a minimum grade of C OR Complete courses 204-126 - Design and Publishing and 204-127 - Digital Prepress Fundamentals with a minimum grade of C

**204-115**
**Digital Photography/Advanced** 3.00
Course focuses on advanced use of photomanipulation software including special effects and new applications. In addition, the basics of good photography and its use in the various areas of graphic design will be studied. PREREQUISITES: 204-107 - Digital Photography/ Introduction to

**204-116**
**Webpage Design for Graphic Designers** 3.00
Students will use GUI software to design, test, publish, and edit web pages that apply basic visual principles and communication strategies. PREREQUISITES: 204-107 - Digital Photography/ Introduction to

**204-120**
**Multimedia Survey** 3.00
This course offers tips on presentation design and the use of multimedia in the graphic design field. Students will learn how to create slides, overheads, and on screen presentations. Transition effects and the use of sound and video will be incorporated into on screen presentations. Students will create an interactive portfolio and at least on presentation for class demonstration. COREQUISITES: 804-135 - Quantitative Reasoning

**204-125**
**Illustration Media Concepts** 3.00
This course guides students through an organized experimentation of traditional art media to create images that convey specific messages to viewers. A variety of media

is used including: watercolor, acrylic, oil pastel, inks, dyes, collage, and computers. Good composition, visual organization, development of creative thinking and visual problem will be emphasized. This course will include a study of perspective, light, shade, and color theory. Current illustration and color trends will be explored. COREQUISITES: 801-136 - English Composition 1

**204-126**
**Design and Publishing** 3.00
This course examines the basic concepts of graphic design page layout and focuses on the principles, equipment, software, and workflow used in the design and publishing process. Students will integrate basic marketing principles in their design strategies and will apply graphic design concepts to produce page layout projects. In so doing, they will understand the primary components of design and publishing: research, strategy, input, composition, project development, and output. Using scanners and importing text from other programs are also covered. PREREQUISITES: 204-100 - Design Concepts

**204-127**
**Digital Prepress Fundamentals** 3.00
Students will study basic concepts in digital prepress fundamentals used in preparing graphic design artwork for printing and publishing. They will become familiar with the complete graphic design creation process: from initial concept and planning through to the final printed collateral. Simple color separations and trapped and/or press ready artwork is the main focus of this course. History and discussion of

traditional and digital prepress equipment and techniques will be introduced. Customer needs, technical accuracy, prepress troubleshooting issues, timelines, and proofing will be included. COREQUISITES: 204-126 - Design and Publishing

**204-128**
**Business of Photography** 2.00
This course deals with all aspects of running a photography business, including studio management, copyright law, career options, contracts, proposals, marketing and self-promotion. Student will create a digital portfolio and examine several successful photography businesses. History of photography from film to digital will be studied.

**204-129**
**Field Photography** 2.00
This course will explore the use of cameras, lenses and digital media as they apply to newsworthy photography as well as location and nature photography. Students will learn how to get good shots in fast paced envrironments like sporting events. Special tools used in field photography will be examined.

**204-130**
**Studio Lighting and Tools** 2.00
Students will examine lighting, drapes, reflectors and special studio photography tools, for a variety of subjects. Shutter and aperture settings will be explained. Commercial photography, portraiture, food photography and macro photography will be explored. Students will plan photo shoots and coordinate all aspects of a shoot.

**204-134**
**Problems in Graphic Design, Advanced** 3.00
Students will produce advanced level projects in graphic design. Various software applications will be integrated in the creation process. Emphasis will be placed on solving advanced visual problems, creating portfolio quality pieces, participating in classroom critiques and final production options and issues. Students will develop problem-solving techniques to guide them through the process of organizing a complete project, including research, marketing, conceptualization, full design development, file preparation, analysis of the project components, color (ink) selections, paper selection, photography, and various finishing techniques. Reproduction issues including timelines, budgets, ink properties, paper properties and design mechanics will be applied to individual projects. PREREQUISITES: 204-140 - Design, Publishing and Prepress with a minimum grade of C OR complete courses 204-126 - Design and Publishing and 204-127 - Digital Prepress Fundamentals with a minimum grade of C

**204-135**
**Design Concepts, Advanced** 4.00
This course examines advanced concepts of graphic design page layout and focuses on the marketing, software, and workflow used in the design and publishing process. Students will use layout, illustration, and photomanipulation software at and advanced level to create portfolio quality projects. Color usage, scanning principles, file formats, importing of text and graphics will be reinforced. All projects will be properly prepared for commercial production. Students will integrate research,

and marketing principles in their design strategies. Projects will be presented and critiqued through written and oral presentation processes. PREREQUISITES: 204-140 - Design, Publishing and Prepress with a minimum grade of C or complete courses 204-126 - Design and Publishing aqnd 204-127 - Digital Prepress Fundamentals with a minimum grade of C

**204-140**
**Design, Publishing and Prepress      4.00**
This course examines the basic concepts of graphic design page layout and focuses on the principles, equipment, software, and workflow used in the design and publishing process. Students will integrate basic marketing principles in their design strategies and will apply graphic design concepts to produce page layout projects. In so doing, they will understand the primary components of design and publishing; research, strategy, input, composition, project development, and output. Digital prepress fundamentals used in preparing graphic design artwork for printing and publishing will be studied. Color separations, trapping and/or press ready artwork as well as History and discussion of traditional and digital prepress equipment and techniques will be introduced. Customer needs, technical accuracy, prepress troubleshooting issues, timelines and proofing will be included. PREREQUISITES: 204-100 - Design Concepts

**204-141**
**Advanced Design Concepts      4.00**
This course examines advanced concepts of graphic design, page layout, and focuses on the marketing, software,

and workflow used in the design and publishing process. Students will use layout, illustration, and photomanipulation of text and graphics will be reinforced. All projects will be properly prepared for commercial production. Students will integrate research, and marketing principles in their design strategies. Projects will be presented and critiques through written and oral presentation processes. History and discussion of traditional and digital prepress equipment and technicqes will be introduced. Customer needs, technical accuracy, prepress troubleshooting issues, timelines and proofing will be included.

**204-142**
**Applied Exit Strategies/Display Graphics      3.00**
Students will focus on resume, portfolio development and interview practices. Career exploration, professional practices, networking will also be discussed. All aspects of this course will lend to the professional development of the individual student. In order to showcase and promote the accomplishments of the student, a graduate design display requirement will be met at the Annual Student Design Show. COREQUISITES: 204-109 - Graphic Design Professional Practices

**204-143**
**Illustration, Advanced      3.00**
This course will teach students the basics of using 3D software for design. Animation, modeling and storyboarding will be examined, as well as the technical aspects and vocabulary involved in mastering 3D software. 3D computer graphics will be compared to 2D. Practical applications for 3D software will be examined as they relate

to graphic design, web design, and game design. PREREQUISITES: 801-136 - English Composition 1 and 804-135 - Quantitative Reasoning

**204-149**
**Advanced Web Page Design for Graphics      3.00**
Students will build upon the knowledge learned from the prerequisite course. Emphasis will be placed on current webpage editors, while adding video and animation elements to their own website. The course will include current topics in web development. Principles of web design for development and posting of websites will be emphasized. PREREQUISITES: 204-116 - Webpage Design for Graphic Designers

**204-162**
**Graphics for Gaming      1.00**
This course is designed to introduce programming students to graphics and graphics creation. Specifically, the graphics used in computer games will be discussed.

**304-101**
**History of Furniture and Decorative Arts      3.00**
Emphasizes the history of decorative arts from ancient times through the technological era especially concerning furnishings and interiors. Interior design careers, projects and markets are surveyed.

**304-102**
**Interior Design, Principles of      3.00**
This course will provide the beginning college student with the fundamentals of

interior design. Students will explore the elements and principles of art and design as they are applied to interior environments. The learner will also gain knowledge of basic concepts in the design process, human ecology, space planning, selecting finishes and furnishings, and design communications techniques.

**304-103**
**AutoCAD, Introduction to      3.00**
This course is a basic introduction to AutoCAD used in the field of Interior Design. Applications covered include equipment overview, Windows, computer technology and use of the current version of AutoCAD. Major emphasis will be on learning AutoCAD commands, menus and input needed to generate 2D drawings used in the industry. Emphasizes mastering a basic level of proficiency. PREREQUISITES: 304-115 - Drafting for Interiors

**304-104**
**Advanced Technology for Interior Design      3.00**
Students will learn to integrate technology across different phases of design and learn to produce well composed and thorough designs quickly and efficiently. The student will develop a strategic overview of the design process, examining how different software can be best woven into the traditional phases of an interior design project and demonstrate tactics within those programs to optimize workflow and interoperability. By lining the standard phases and processes of an interior design project with the capabilities of the software most commonly used student will produce enhanced deliverables such as presentations, renderings and construction

drawings. PREREQUISITES: 607-170 - AutoCAD for Construction Sciences, 614-150 - 3D CAD:Building information Model, and 304-116 - Kitchen and Bathroom Planning with a minimum grade C or TR

## 304-106
### Interior Lighting/Fundamentals of      3.00

Students will study interior lighting application, assess client and site requirements, use compositional techniques for lighting design, evaluate construction constraints, select light sources and fixtures, and communicate the design through drawings and documents. PREREQUISITES: 304-115 - Drafting for Interiors and 304-140 - Rendering Techniques

## 304-107
### Internship for Interior Designers      2.00

Provides an opportunity to gain practical work experience through supervised internships at an approved job site to gain practical knowledge of the interior design skills learned in the classroom. PREREQUISITES: 304-116 - Kitchen and Bathroom Planning 304-132 - Sales and Professional Practice for ID 304-154 - Interior Elements of Building Const. 304-156 - Residential Design Studio 1 with a minimum grade of C COREQUISITES: 304-130 - Contract Design Studio

## 304-115
### Drafting for Interiors      3.00

The student will design floor plans through the fundamental knowledge and use of drafting equipment. This course will build the student's understanding of floor plans, site plans, site selection, architectural styles and concepts, layout and final design drawings.

## 304-116
### Kitchen and Bathroom Planning      3.00

Students will develop the skills of planning and remodeling kitchens and bathrooms through drawing methods using the National Kitchen and Bath Association (NKBA) standards. The course provides client-oriented design problems and includes planning using standard components and fixtures. PREREQUISITES: 804-135 - Quantitative Reasoning 801-136 - English Composition 1 304-129 - Visual Communication for Interior Design 304-137 - Advanced Architectural Drawing and 304-156 - Residential Design Studio 1 with a minimum grade of C COREQUISITES: 304-138 - Residential Design Studio II

## 304-117
### Color Theory      3.00

Selection and arrangement of tasteful color schemes are designed through sample use. Expressive use of color; color conditioning problems. Psychology and physics of color are explored as these relate to designing and decorating.

## 304-118
### Art History      3.00

Briefly traces western arts from prehistoric through contemporary art. Surveys Oriental and American art. Delves into the complexities of artwork created by females. Makes application to the field of Interior Design, including art media, techniques, art terms, current artists, replica art methods, and resources for original and duplicate artworks. CD-ROM, internet computer programs, slides, videos, and prints provide visual sources as well as a beautifully illustrated textbook with thousands of examples. This class is culturally and educationally expanding for the student.

## 304-119
### Portfolio Presentation      1.00

The learner gains knowledge and assistance in preparing a professional portfolio. The course culuminates with a portfolio show presenting the students design achievement, body of work, and skills to the professional community.

## 304-120
### Interior Design Internship and Sales  3.00

This includes, planning, presentation, handling resistance, and closing the sale. The internship portion introduces students to entry level interior design work experiences and career planning skills. Students will select an area of interest in the design field where they will complete 72 hours of internship. PREREQUISITES: 304-156 - Residential Design Studio 1 with a minimum grade of C or TR COREQUISITES: 304-152 - Commercial Design Studio

## 304-122
### Textiles      3.00

Students will study the selection, use and care of textile fabrics. All fibers, natural and synthetic, will be dealt with. The most recent technology in construction, finishes and color application will be emphasized.

## 304-123
### Business of Interior Design      3.00

Design business procedures and resources used by designers to expedite dealing with clients, vendors, and contractors. Surveys methods of billing, business forms and types of businesses. Introduces students to the various types of window treatments and methods for fabrication, measurement and charging.

## 304-127
### Interior Space Plan and Design      3.00

Interior Space Planning and Design combines the study of human factors, codes, regulations, standards, and universal design, the selection and specification of; furniture, fixtures, equipment, and accessories in planning interior spaces. Projects include the steps of the design process, from space planning through design finalization, for both residential and commercial spaces. Students will explore various problem solving methods, working in a design team, and presenting design solutions as if working with actual clients. PREREQUISITES: 304-101 - History of Furniture and Decorative Arts, 304-102 - Interior Design, Principles of, 304-103 - AutoCAD, Introduction to, 304-117 - Color Theory, 304-122 - Textiles, 304-133 - Sustainable Materials and Finishes, 304-140 - Rendering Techniques, and 304-115 - Drafting for Interiors

## 304-128
### Basic Architectural Drawing      3.00

This course will introduce students to basic manual and computer-aided drawing for interior design. Students will learn how to properly use equipment and produce two-dimensional drawings. COREQUISITES: 801-136 - English Composition 1

## 304-129
### Visual Communication for
### Interior Design      3.00

Students develop skills in manually sketching and rendering three-dimensional drawings of interior spaces to communicate design concepts. Additionally, students create professional-quality presentation boards and visual displays using both physical and digital methods. PREREQUISITES: 304-128 - Basic

Architectural Drawing Basic Architectural Drawing and course 304-102 - Interior Design, Principles of Principles of Interior Design with a minimum grade of C

**304-130**
**Contract Design Studio** 4.00

Contract design, also referred to as Commercial Interior Design, is the design of non-residential environments. This course will focus on programming, planning, design and specification of interior space as it relates to various types of commercial spaces such as; offices, health care facilities, hospitality industry, food and beverage facilities, and retail design. Students apply their knowledge of materials, finishes, furniture, lighting and building construction through all phases of the design process. In addition, students further develop CAD skills necessary to produce project documentation and presentations for a comprehensive commercial design problem. PREREQUISITES: 304-116 - Kitchen and Bathroom Planning 304-132 - Sales and Professional Practice for ID 304-154 - Interior Elements of Building Const. 304-156 - Residential Design Studio 1 with a minimum grade of C COREQUISITES: 304-107 - Internship for Interior Designers

**304-132**
**Sales and Professional Practice for ID** 3.00

Covers essential interior design business practices and procedures, including business formations, fees, contracts, project management, business forms and record keeping. Professional work conduct and interior design sales techniques are also covered. PREREQUISITES: 304-156 - Residential Design Studio 1 with a minimum grade of C

**304-133**
**Sustainable Materials and Finishes** 3.00

Focuses on identifying building materials to satisfy the design criteria. Students will learn appropriate selection of: materials, finishes, and products based on their properties, sustainability, performance criteria, installation methods, and maintenance requirements. Additionally insight will be gained in procedures within the construction industry from; organizational culture, to the interior designer's role, responsibilities and documentation of specifications.

**304-137**
**Advanced Architectural Drawing** 3.00

This course will build on the Basic Architectural Drawing coursework and further develop student skills in computer-aided drawing techniques for interior design. Computer-aided three-dimensional modeling will also be introduced and explored as a method to communicate design. PREREQUISITES: 304-128 - Basic Architectural Drawing Basic Architectural Drawing and course 304-102 - Interior Design, Principles of Principles of Interior Design with minimum grade of C

**304-138**
**Residential Design Studio II** 3.00

Students demonstrate their accumulated skills through the resolution of a comprehensive residential design project. PREREQUISITES: 304-156 - Residential Design Studio 1 with a minimum grade of C

**304-140**
**Rendering Techniques** 3.00

This course will introduce students to a broad range of drawing and rendering

methods. Floor plan, elevation, one, two, and three point perspectives are used in illustration of furnishings and room interiors are discussed. Surveys use of neutral and color media, shadow, texture, signage and presentation techniques. COREQUISITES: 304-115 - Drafting for Interiors

**304-148**
**Interior Design Internship II** 2.00

The internship course will allow students to gain meaningful work experience in a specialty area of the interior design industry. Students will work in an environment that will allow them to apply their skills and knowledge at an actual business. This course requires a minimum of 144 hours of occupational / internship work, and students will submit the required agreement forms prior to commencing the work experience. Additionally, students seeking credit hours that comply with NKBA and or NCIDQ must have the written permission of the course instructor and provide the necessary documentation to verify the internship supervisor's professional credentials prior to beginning the internship work.

**304-149**
**Kitchen and Bath Planning, Advanced** 3.00

Through this studio, Kitchen and Bath Design students gain advanced approaches to their design solutions, including knowledge of NKBA Planning Guidelines for the kitchen, and NKBA Access Planning Guidelines used in universal design projects. Building upon skills learned in KandB Design, students improve their ability to develop and present a design concept and theme. In addition, a focus will be learning to produce professional working

documents of advanced kitchen projects as they progress from inception to completion. PREREQUISITES: 304-116 - Kitchen and Bathroom Planning with a minimum grade of C or TR

**304-150**
**Architectural History** 3.00

This course is introductory and assumes no background in architecture or architectural history. It seeks to provide students with an introduction to basic foundations for studying architecture.

**304-151**
**Center for Sust. Living: Practicum** 1.00

With the creation of a "green room" Interior Design students will apply what they have learned in 304-155 Principles of Interior Design and 304-133 Sustainable Materials and Finishes. Students will confirm that preliminary space plans and design concepts are safe, functional, aesthetically appropriate, and meet all public health, safety and welfare requirements, and sustainability guidelines. Students will be performing and learning all duties related to the installation of materials, finishes and products. The space will feature re-purposed furnishings and finishes that promote sustainable and green design. PREREQUISITES: 304-133 - Sustainable Materials and Finishes

**304-152**
**Commercial Design Studio** 3.00

Examine the elements of commercial interiors through the study of human factors, codes, space planning guides with ADA and universal design, the selection and specification of; furniture, fixtures,

equipment, comprehensive lighting solutions, and accessories in planning interior spaces. Projects include the steps of the design process, from programming through design finalization, for commercial spaces such as retail, restaurants, and health care facilities. Students will explore various problem solving methods, working in a design team, and presenting design solutions as if working with actual clients. PREREQUISITES: 304-101 - History of Furniture and Decorative Arts, 304-104 - Advanced Technology for Interior Design, 304-116 - Kitchen and Bathroom Planning, 304-122 - Textiles, 304-123- Business of Interior Design, 304-133 - Sustainable Materials and Finishes, 304-153 - Drafting and Rendering Techniques, 304-154 - Interior Elements of Building Const., 304-155 - Principles of Interior Design, 304-156 - Residential Design Studio 1, 304-151 - Center for Sust. Living: Practicum, 304-150 - Architectural History, and 607-170 - AutoCAD for Construction Sciences with a mimimum grade of C or TR COREQUISITES: 104-114

**304-153**
**Drafting and Rendering Techniques  4.00**
This course covers the development of 2D and 3-D graphic communication techniques in developing preliminary and final interior design presentations to convey design concepts and solutions. Student will use manual and digital methods to produce construction plans, perspective drawings, axonometric, presentation boards, 3-D models, freehand sketching and rendered drawings using pen and ink, color media. COREQUISITES: 607-170 - AutoCAD for Construction Sciences and 614-150 - 3D CAD:Building information Model

**304-154**
**Interior Elements of Building Const.  2.00**
This course will introduce students to basic components of building construction, including structural components and mechanical systems Students will learn basic structural principles applied to the building environment through a review of common building methods including timber frame, masonry, and steel construction for residential and commercial projects as applicable. Sustainable design and the health and welfare of occupants will be considered throughout. PREREQUISITES: 304-156 - Residential Design Studio 1 with a minimum grade of C

**304-155**
**Principles of Interior Design          4.00**
This course will provide the beginning college student with the fundamentals of interior design. Study and apply elements of interior design to interior environments while focusing on basic concepts in the design process, human ecology, space planning, color theory, selecting finishes and furnishings, and design communications techniques. Develop an understanding of the space allocation skills required for the practical and aesthetic manipulation of a building's interior space. Use the fundamentals of design in hands-on lab experiences.

**304-156**
**Residential Design Studio 1          3.00**
This course focuses on the problem-solving discipline of the design process and its application to residential design. Students develop concepts to achieve design goals and apply theoretical knowledge and

technical skills to their design solutions as they work on a variety of professionally relevant interior design projects. Student will examine the elements of residential interiors through the study of human factors, codes, space planning guides with ADA and universal design, the selection and specification of; furniture, fixtures, equipment, comprehensive lighting solutions, and accessories in planning interior spaces. Projects include the steps of the design process, from programming through design finalization, for residential spaces such as single family homes, multi-unit residences and other specialized areas. Students will explore various problem solving methods, working in a design team, and presenting design solutions as if working with actual clients. PREREQUISITES: 304-128 - Basic Architectural Drawing Basic Architectural Drawing and 304-102 - Interior Design, Principles of Principles of Interior Design with a minimum grade of C COREQUISITES: 804-135 - Quantitative Reasoning

**304-195**
**Global Interior Design Field Study     1.00**
This class provides the opportunity for students to investigate the interior design industry, learn about global markets, cultural and design influences on products in the industry, how to forecast market trends, and apply networking skills to professional venues.

**307-100**
**Children's Spontaneous Play          3.00**
This course examines the essential role of children's spontaneous play in their development and the strategies teachers utilize to promote it. Course competencies

include: analyze the critical of child-initiated spontaneous play; analyze children's play skills based on assessment; enrich a developmentally appropriate environment to support children's spontaneous play; examine the role of the teacher in participating/intervening in children's spontaneous play; develop strategies for participating/intervening in children's spontaneous play; identify strategies that support diversity and anti-bias perspective; and utilize positive interpersonal skills with children.

**307-108**
**ECE: Early Language and Literacy     3.00**
This course explores strategies to encourage the development of early language and literacy knowledge and skill building in children birth to 8 years of age. Learners will investigate the components of literacy including; literacy and a source of enjoyment, vocabulary and oral language, phonological awareness, knowledge of print, letters and words, comprehension and an understanding of books and other texts. Theories and philosophies regarding children's language and literacy development will be addressed. Dual language learning will be examined within the context of developmentally appropriate practices. Assessment tools for early language and literacy acquisition will be reviewed. COREQUISITES: 307-148 - ECE: Foundations of Early Childhood Education

**307-110**
**ECE: Soc S, Art, and Music          3.00**
This 3-credit course will focus on beginning level curriculum development in the specific integrated content areas of social studies, art, music, and movement

(SSAMM). COREQUISITES: 307-148 - ECE: Foundations of Early Childhood Education

**307-112**
**ECE: STEM** **3.00**

This 3-credit course will focus on beginning level curriculum development in the specific integrated content areas of science, technology, engineering and mathematics. COREQUISITES: 307-148 - ECE: Foundations of Early Childhood Education

**307-115**
**ECE: Infant Toddler Capstone** **3.00**

This course integrates the theory, practice and reflection of courses 1-3 in the Infant/Toddler Credential and requires demonstration of best practices. PREREQUISITES: 307-151 - ECE: Infant and Toddler Development, 307-195 - ECE: Family and Community Relationships, and 307-189

**307-140**
**ECE: Behavior and Emotional**
**Challenges** **3.00**

This course helps promote children's success by building relationships and creating supportive environments, and learning how to demonstrate positive social-emotional teaching strategies. Specific discipline and guidance strategies will be described. Individualized intensive interventions for developing behavior support plans as they relate to challenging behavior will be created and evaluated.

**307-141**
**ECE: Spec Health Care Needs** **3.00**

This course explores the frequently encountered specialized health care needs of young children with disabilities. PREREQUISITES: 307-187 - ECE: Children with Differing Abilities

**307-142**
**ECE: Inclusion Cred Capstone** **3.00**

This course is designed to enhance the students understanding of the impact a child with a disability has on the family system. Students will have the opportunity to participate with a child and his/her family in daily routines and community settings. PREREQUISITES: 307-187 - ECE: Children with Differing Abilities

**307-144**
**ECE: Administrative Seminar** **3.00**

This is the culminating experience in the Early Childhood Administrator /credential course sequence. Major individual projects are required with a focus on the integration of program aspects in developing strategic planning for change.

**307-148**
**ECE: Foundations of Early**
**Childhood Education** **3.00**

This three credit course introduces you to the early childhood profession. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; investigate the history of early childhood education; summarize types of early childhood education settings; identify the components of a quality early childhood education program; summarize responsibilities of early childhood education

professionals; and explore early childhood curriculum models.

**307-149**
**ECE: Child Care**
**Operations Management** **3.00**

This course includes discussion and practical applications related to scheduling, staffing, facilities management, equipment acquisition and maintenance, record keeping, and communication.

**307-151**
**ECE: Infant and**
**Toddler Development** **3.00**

In this three credit course, you will study infant and toddler development as it applies to an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; analyze development of infants and toddlers (conception to three years); correlate prenatal conditions with development; summarize child development theories; analyze the role of heredity and the environment; examine research-based models; and examine culturally and developmentally appropriate environments for infants and toddlers.

**307-166**
**ECE: Curriculum Planning** **3.00**

This three credit course examines the components of curriculum planning in early childhood education. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment; examine caregiving routines as curriculum; develop activity plans that promote child

development and learning; develop unit plans that promote child development and learning; and analyze early childhood curriculum models. PREREQUISITES: 307-174 - ECE: Introductory Practicum with a minimum grade of C or TR

**307-167**
**ECE: Health, Safety, and Nutrition** **3.00**

This three credit course examines the topics of health, safety, and nutrition within the context of the early childhood educational setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; follow governmental regulations and professional standards as they apply to health, safety, and nutrition; provide a safe early childhood program; provide a healthy early childhood program; provide a nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; and incorporate health, safety, and nutrition concepts into the children's curriculum.

**307-169**
**ECE: Infant Toddler Group Care** **3.00**

This course focuses on caring for infants and toddlers in center based and family child care settings. Materials will cover program quality, philosophy, structure, environments, health and safety, and developmentally appropriate practice.

**307-174**
**ECE: Introductory Practicum** **3.00**

In this practicum course, you will learn about and apply the course competencies in an actual child care setting. The course

competencies include: document children's behavior; explore the standards for quality early childhood education; explore strategies that support diversity and anti-bias perspectives; implement activities developed by the co-op teacher/instructor; demonstrate professional behaviors; practice caregiving routines as curriculum; practice positive interpersonal skills with children; and practice positive interpersonal skills with adults. COREQUISITES: 307-167 - ECE: Health, Safety, and Nutrition and 307-148 - ECE: Foundations of Early Childhood Education with minimum grade C and course 801-136 - English Composition 1

**307-175**
**ECE: Preschool Practicum          3.00**

This course will apply as the capstone course in The Registry Preschool Credential. You will be placed or working in an early childhood setting with 3-5 year old children and create a portfolio that prepares you for The Registry commission. In this course you will be implementing regulations and standards for quality early childhood education, applying knowledge of child development and positive guidance, utilizing observation and assessment techniques, and assessing developmentally appropriate environments for preschoolers. PREREQUISITES: 307-174 - ECE: Introductory Practicum with a minimum grade of C

**307-177**
**ECE: Intermediate Practicum          3.00**

In this 3-credit course you will be implementing regulations and standards for quality early childhood education, applying knowledge of child development and positive guidance, utilizing observation

and assessment techniques, and assessing developmentally appropriate environments for children. PREREQUISITES: 307-175 - ECE: Preschool Practicum with minimum grade C and complete courses 804-135 - Quantitative Reasoning and 801-136 - English Composition 1 COREQUISITES: 307-151 - ECE: Infant and Toddler Development minimum grade C

**307-178**
**ECE: Art, Music, and Language Arts  3.00**

This three credit course will focus on beginning level curriculum development in the specific content areas of art, music, and language arts. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment; develop activity plans that promote child development and learning; analyze caregiving routines as curriculum; create developmentally appropriate language, literature, and literacy activities; create developmentally appropriate art activities; and create developmentally appropriate music and movement activities.

**307-179**
**ECE: Child Development          3.00**

This three credit course examines child development within the context of the early childhood education setting. Course competencies include: analyze social, cultural, and economic influences on child development; summarize child development theories; analyze development of children age three through eight; summarize the methods and designs of child development research; and analyze the role of heredity and environment.

**307-182**
**ECE: Child Care Financial**
**Management          3.00**

This course includes principles and practices in budget planning, preparation and fiscal management including hands-on preparation with program applications.

**307-184**
**ECE: Child Care External**
**Environment          3.00**

Review of external factors which affect the operation of early care and education programs including determination of community child care needs, marketing, laws and regulations, working with government and community agencies, political and social issues and trends.

**307-185**
**ECE: Child Care Best Practices     3.00**

Establishing and maintaining quality programs based on professional standards and the best available information on child growth and development and family friendly environment/services. Coursework includes a review of the literature and research studies, licensing laws and regulations, criteria for staff credentials (CDA) and the accreditation of programs by the National Academy of Early Childhood Programs and funding requirements and performance standards such as those for Head Start.

**307-187**
**ECE: Children with Differing**
**Abilities          3.00**

This three credit course focuses on the child with differing abilities in an early childhood education setting. Course competencies

include: integrate strategies that support diversity and anti-bias perspectives; provide inclusive programs for young children; apply legal and ethical requirements including, but not limited to, ADA and IDEA; differentiate between typical and exceptional development; analyze the differing abilities of children with physical, cognitive, health/medical, communication, and/or behavioral/emotional disorders; work collaboratively with community and professional resources; utilize an individual educational plan (IEP/IFSP) for children with developmental differences; adapt curriculum to meet the needs of children with developmental differences; and cultivate partnerships with families who have children with developmental differences.

**307-188**
**ECE: Guiding Children's Behavior     3.00**

This three credit course examines positive strategies to guide children's behavior in the early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; summarize early childhood guidance principles; analyze factors that affect the behavior of children; practice positive guidance strategies; develop guidance strategies to meet individual needs; and create a guidance philosophy.

**307-192**
**ECE: Practicum 2          3.00**

In this three credit practicum course, you will learn about and apply the course competencies in an actual child care setting. The course competencies include: identify children's growth and development; maintain the standards for quality early childhood education; practice strategies that

support diversity and anti-bias perspectives; implement student-teacher developed activity plans; identify the elements of a developmentally appropriate environment; implement positive guidance strategies; demonstrate professional behavior; utilize caregiving routines as curriculum; utilize positive interpersonal skills with children; and utilize positive interpersonal skills with adults. PREREQUISITES: 307-174 - ECE: Introductory Practicum and 307-164 with a minimum grade of C or TR

**307-194**
**ECE: Math, Science, and Social Studies** 3.00

This three credit course will focus on beginning level curriculum development in the specific areas of math, science, and social studies. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment; develop activity plans that promote child development and learning; create developmentally appropriate science activities; create developmentally appropriate math activities; and create developmentally appropriate social studies activities.

**307-195**
**ECE: Family and Community Relationships** 3.00

In this three credit course, you will examine the role of relationships with family and community in early childhood education. Course competencies include: implement strategies that support diversity and anti-bias perspectives when working with families and community; analyze contemporary family patterns, trends, and relationships;

utilize effective communication strategies; establish ongoing relationships with families; advocate for children and families; and work collaboratively with community resources.

**307-197**
**ECE: Practicum 3** 3.00

In this three credit practicum course, you will learn about and apply the course competencies in an actual child care setting. The course competencies include: assess children's growth and development; implement the standards for quality early childhood education; integrate strategies that support diversity and anti-bias perspectives; build meaningful curriculum; provide a developmentally appropriate environment; facilitate positive guidance strategies; evaluate one's own professional behaviors and practices; lead caregiving routines as curriculum; utilize positive interpersonal skills with children; and utilize positive interpersonal skills with adults. PREREQUISITES: 307-192 - ECE: Practicum 2 with a minimum grade of C or TR COREQUISITES: 307-151 - ECE: Infant and Toddler Development

**307-198**
**ECE: Administering an Early Childhood Education Program** 3.00

This three credit course focuses on the administration of an early childhood education program. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; analyze the components of an ECE facility; design an ECE program; analyze the aspects of personnel supervision; outline financial components of an ECE program; apply laws and regulations related to an ECE facility; and advocate for the early childhood profession.

**307-199**
**ECE: Advanced Practicum** 3.00

In this three credit practicum course, you will learn about and apply the course competencies in an actual child care setting. Course competencies include: analyze children's growth and development based on assessment; integrate strategies that support diversity and anti-bias perspectives; promote professional behaviors and practices; implement meaningful curriculum; create respectful, reciprocal relationships; evaluate early childhood education programs for quality; and explore professional options in early childhood education. PREREQUISITES: 307-177 - ECE: Intermediate Practicum with a minimum grade of C or TR

**307-204**
**ECE: Child Care Admin and Supervision** 3.00

This course provides an overview of roles and responsibilities of directors, coordinators, supervisors and other administrators in early childhood programs.

**316-100**
**Foods, Basic** 3.00

Basic theory of food and hands-on preparation. Emphasis on evaluation of products, teamwork, safety and sanitation.

**316-104**
**Short Order/Deli** 2.00

Practice in short order food preparation; frying, grilling, sandwich making, salad and dessert preparation. Analysis of cost and returns. COREQUISITES: 316-170

- Sanitation and Hygiene and 316-131 - Culinary Skills I

**316-105**
**International Buffets** 4.00

Organization and service of buffets are stressed. Includes menu planning, cost control and dining room set up. Emphasis is placed on preparation and cooking of international cuisine. PREREQUISITES: 316-132 - Culinary Skills II

**316-109**
**Short Order Deli** 3.00

This course provides learners with the opportunity to practice short order food preparation including: frying, grilling, sandwich making, salad, and dessert preparation. Menu planning and cost analysis is presented. COREQUISITES: 316-170 - Sanitation and Hygiene and 316-131;

**316-110**
**Baking for Chefs** 3.00

Baking techniques and procedures as related to food service operations. Use of and care of equipment. Sanitation and hygiene considerations. PREREQUISITES: 316-131 - Culinary Skills I and 316-132 - Culinary Skills II

**316-125**
**Fine Dining** 4.00

Training in the duties of a waiter is given including table setting, taking orders and placing in the kitchen and clearing the table. Students also learn how to set up foods in the service line, serve hot and cold foods, prepare beverages and keep a flow of foods in the service line. PREREQUISITES:

316-105 - International Buffets 316-131 - Culinary Skills I 316-132 - Culinary Skills II 316-135 - Catering/Banquets 316-170 - Sanitation and Hygiene 804-135 - Quantitative Reasoning 801-136 - English Composition 1 OR complete courses 316-131 - Culinary Skills I and 109-122 - Service in the Hospitality Ind, Intro to

**316-126**
**Dining Room Service** 3.00

Emphasis on procedures for hosting, bussing, and serving customers in fine dining. Set up and serve different styles of service. Assist as a team member of the food service team.

**316-130**
**Nutrition** 2.00

Basic principles and current nutritional concepts are explored with emphasis on meeting the nutritional needs of various individuals.

**316-131**
**Culinary Skills I** 4.00

Practical experience in basic food preparation is emphasized by using fundamental concepts and developing skills and techniques used in professional cookery. Luncheon items will be prepared and served by students for cafeteria patrons during the final weeks of this course. COREQUISITES: 804-135 - Quantitative Reasoning and 316-170 - Sanitation and Hygiene with a minimum grade C

**316-132**
**Culinary Skills II** 4.00

Students reinforce knowledge and skills learned in Culinary Skills I to begin building on that knowledge. Includes cooking luncheon menus, garnishing, plate presentation and kitchen management. PREREQUISITES: 316-131 - Culinary Skills I COREQUISITES: 801-136 - English Composition 1 minimum grade of C

**316-133**
**Menu Planning Purchasing Cost Control** 3.00

Menu planning as affected by acceptability, cost, labor requirements, available space and equipment. Principles of purchasing, receiving, issuing and managing food products, restaurant wares and equipment. Study and utilization of several systems used in the food service business to provide management information in food and beverage cost.

**316-134**
**Garde Manager** 1.00

Preparation of decorative meats and centerpieces and decorating and arranging food platters for buffet presentation.

**316-135**
**Catering/Banquets** 2.00

Practical experience in organizing, menu planning, room set-up, preparation, cooking and serving banquets of various sizes. PREREQUISITES: 316-132 - Culinary Skills II

**316-136**
**Culinary Competition I** 1.00

This course introduces new students to the rules and regulations of culinary competition. Emphasis is on food styling concepts that meet the American Culinary Federation's judging standards. As a final project, students compete in the WRA student culinary arts salon.

**316-137**
**Culinary Competition II** 1.00

This course builds on skills and knowledge gained in Culinary Competition I. Emphasis is on food styling concepts that meet the American Culinary Federation's judging standards. As a final project, students compete in the WRA student culinary arts salon.

**316-138**
**Basic Baking** 2.00

This course presents basic baking techniques and procedures related to food service operations. Use and care of equipment are presented. Sanitation and hygiene considerations are reviewed. COREQUISITES: 316-170 - Sanitation and Hygiene and 316-131 - Culinary Skills I

**316-139**
**Convenience Baking** 1.00

This course presents convenience baking techniques and procedures related to food service operations. Use and care of equipment are presented. Sanitation and hygiene considerations are reviewed. COREQUISITES: 316-170 - Sanitation and Hygiene and 316-131 - Culinary Skills I

**316-140**
**Basic Baking Techniques** 3.00

This course presents basic baking techniques and convenience baking techniques and procedures related to food service operations. Use and care of equipment are presented. Sanitation and hygiene considerations are reviewed.

**316-158**
**Food and Beverage Cost Control** 2.00

Study and utilization of several systems used in the food service business to provide management information in food and beverage costs and investment return.

**316-170**
**Sanitation and Hygiene** 1.00

A study of sanitary conditions and the methods used in applying the measure effectively. Includes organisms responsible for food contamination, spoilage, and the diseases transmitted by food. Personal health habits necessary for food service personnel and the laws regarding sanitary practices are interpreted.

**316-190**
**Food Service Supervision** 3.00

How to fulfill a leadership role; how to organize resources of people, time, equipment and jobs; how to motivate people and communicate effectively with subordinates; how to select, interview and appraise employees; how to handle problems of discipline, morale and grievances.

**401-501**
**Introduction to HVAC** 1.00

This introductory course introduces the student to the terminology used; the basic math concepts relevant to the HVAC industry and basic electrical concepts are covered.

**401-502**
**Tube and Piping Skills** 1.00

This course introduces the mechanical skills necessary to identify, select, and construct plastic, copper and ferrous tubing and pipe to industry and Code standards.

**401-503**
**Ductwork** 1.00

The design and application of sheet steel, fiberglass and flexible duct layout and construction are extensively covered.

**401-505**
**Alternating Current and Contr** 1.00

Types of motors, transformers and capacitors are covered in depth. The application of electronics in HVAC are introduced and basic troubleshooting of common electromechanical and electronic devices are explored.

**401-506**
**Forced Air Heating Intro to** 1.00

The theory of heating using air as the medium is introduced. The common components of each fuel are covered and how efficiency changes affects the heating cycle. The importance of proper venting and vent design and basic troubleshooting are introduced.

**401-508**
**Cooling Fundamentals** 1.00

This course introduces the student to the concepts of heat transfer, the refrigeration cycle and use of the P/T chart. Evacuation, recovery, leak detection and basic troubleshooting are covered.

**401-509**
**Troubleshooting HVAC** 1.00

Expanded troubleshooting of gas, electric furnaces and central air forced air systems are covered in detail.

**401-510**
**Hydronics** 1.00

This course covers Hydronic equipment, types of piping circuits, safety components, pumps and near boiler piping. Also basic steam and chilled water technology is introduced.

**401-512**
**Heating and Cooling Design** 1.00

Interpretation and use of construction drawings, heat loss and gains, and site factors that affect equipment selection and duct design are introduced.

**401-513**
**Indoor Air Quality and DDC Controls** 1.00

Factors that affect IAQ, the use of DDC controls in energy management are covered. Economizers, energy recovery and ice storage concepts are introduced.

**401-514**
**Commercial Concepts** 1.00

Cooling towers, water quality and treatment, steam plant commissioning and idling are introduced.

**401-515**
**Heat Pumps** 1.00

The student is introduced to the operation, maintenance and troubleshooting of heat pumps.

**401-516**
**Commercial Refrigeration Systems** 1.00

The types of common industrial and commercial refrigeration equipment are covered. Advanced troubleshooting skills are introduced for the technician.

**401-517**
**Troubleshooting Gas Furnaces** 1.00

The importance of proper venting, vent design and basic troubleshooting of today's Standard and High Efficiency furnaces is introduced.

**401-518**
**Troubleshooting Cooling** 1.00

Evacuation, recovery, leak detection methods and basic troubleshooting of A/C equipment are introduced.

**401-519**
**Com/Ind Refrigeration and Alter. Systems** 1.00

Refrigeration components and techniques used in large refrigeration plants are

covered. Also introduced to the student is alternative heating/cooling methods that are emerging in our renewable society.

**401-525**
**Electronic Energy Management GL NAV** 2.00

Topics include introduction to the role of computers and their use in energy management in the HVAC Industry. Emphasis will be on the identification, installation, function, repair, and upgrading of EEM Systems used to control the HVAC environment in commercial applications. PREREQUISITES: 401-520, 401-523, and 401-524 with a minimum grade of C or TR

**401-526**
**Electronic Energy Management 2 GL NAV** 2.00

Topics include computers and their use in energy management in the HVAC Industry. Emphasis will be on use of EEM Systems to control the HVAC environment in commercial applications. Students will learn the use of Trending and Scheduling practices, the use of overides and the importance of proper sequencing of equipment. PREREQUISITES: 401-520, 401-523, 401-524, and 401-525 - Electronic Energy Management GL NAV with a minimum grade of C or TR

**401-560**
**Comm/Ind Refrigeration and Alt. Systems** 1.00

This week will deepen the student's understanding of the complex controls and operation of large scale refrigeration equipment. The week will also Introduce the student to emerging technolgies that

have not been used in large scale to date. Geothermal, radiant, waste heat, and other alternatives are explored.

**401-561**
**Heating and Cooling Design          1.00**

Use of construction drawings, the fundamentals of heat loss/gain, equipment selection, and the fundamentals of leadership are covered in the student's final week.

**401-562**
**Commercial Concepts, Advanced     1.00**

This week broadens the knowledge base for the fourth year student. Topics include the effects of water quality on cooling towers, boilers and chillers, proper startup/shutdown of physical plants, and how new energy conservation equipment is being used in HVAC.

**401-563**
**IAQ/DDC Controls and Air Balancing 1.00**

This week covers the factors that affect IAQ, the use of automated controls in our energy management, and the effects of proper airfolow on comfort in structures.

**401-564**
**Heat Pumps          1.00**

This week moves the student from the introduction of the fundamentals of heat pump technology to component identification and troubleshooting of the various kinds of heat pumps. The student is also introduced to customer relation principles as they move towards their last year.

**401-565**
**Refrigerant; Advanced Topics        1.00**

This week covers troubleshooting techniques a student needs when working on A/C and refrigeration systems. This week also introduces the student to the emerging VRF, ductless and zoned systems that have entered into the marketplace.

**401-566**
**Troubleshooting HVAC Systems       1.00**

This intense week contains concentrated review of troubleshooting techniques for fuel fired appliances, motors, and controls. The correct use of installation fasteners, terminal connectors, and hardware are also covered.

**401-567**
**Hydronics and Steam Systems        1.00**

This week expands on the student's general knowledge of hydronics by covering individual componenets, their function, and operation. The student is then introduced to the operation of unique controls of steam plants.

**401-568**
**Venting and Introduction to**
**Hydronics          1.00**

This week is split between the complex requirements for venting fuel burning appliances and introducing the student to the basics of hydronic heating concepts and the components used.

**401-569**
**Alternating Current and PM Basics   1.00**

This week expands on the student's basic understanding of AC electricity by covering

motors, transformers and other loads found in HVAC equipment. This week also covers basic preventative maintenance procedures for typical HVAC equipment.

**401-570**
**Ductwork Construction and Airside**
**Basics          1.00**

This week covers the selection and fabrication of common materials used in ductwork applications and the uses of those delivery systems in commercial buildings.

**401-571**
**Mechanical Refrigeration Circuit    1.00**

This comprehensive week focuses on the major working components of a mechanical refrigeration device. Regrigerant oils, types of refrigerants, leak detection, recovery and proper charging techniques are covered in depth.

**402-120**
**Aeronautical Decision Making        2.00**

The student will apply theories and procedures learned in Aviation Safety in simulated flight conditions. Analysis and evaluation of student actions, individual and as a flight crew, will be completed for each flight scenario. PREREQUISITES: 402-173 - Professional Piloting II COREQUISITES: 402-138 - Aero Science Aviation Safety

**402-122**
**Aircraft Systems-Advanced          3.00**

This lecture based course covers the principles of turbine engine theory and operation. Turbine aircraft systems are studied, including pressurization, anti and de-ice systems, pneumatic and hydraulic

systems and aircraft control systems. Advanced electronic and navigation systems are learned. Low and high performance aircraft structures are evaluated and compared. FAR's pertaining to advanced aircraft are learned and applied to a daily flight routine. PREREQUISITES: 402-139 - Aero Science Engine/ Structures/ Systems

**402-123**
**Aircraft Systems Advanced          2.00**

This lecture based course covers the principles of turbine engine theory and operation. Turbine aircraft systems are studied, including pressurization, anti and de-ice systems, pneumatic and hydraulic systems and aircraft control systems. Advanced electronic and navigation systems are learned. FAR's pertaining to advanced aircraft are learned and applied to a daily flight routine. PREREQUISITES: 402-139 - Aero Science Engine/ Structures/ Systems minimum grade C

**402-129**
**Aviation/Introduction          3.00**

An introductory aviation ground course designed to prepare the student for the FAA Private Pilot Airplane written examination.

**402-131**
**Aero Science Fundamentals**
**of Instruction          2.00**

An advanced aviation ground course designed to prepare the student for the FAA Fundamentals of Instruction written examination. PREREQUISITES: 402-140D - Flight Private Pilot B minimum grade C

**402-133**
**Aero Science Commercial** 3.00

An advanced aviation ground course designed to prepare the student for the FAA Commercial Pilot Airplane written examination. PREREQUISITES: 402-140 - Flight Private Pilot or 402-140D - Flight Private Pilot B with a minimum grade of C or TR

**402-134**
**Aero Science Certified Flight Instructor Airplane** 2.00

An advanced aviation ground course designed to prepare the student for the FAA Airplane Flight Instructor written examination. COREQUISITES: 402-145 - Flight/Certified Flight Instructor Airplane

**402-135**
**Aero Science Aerophysics/ Aerodynamics** 3.00

Principles of physics as applied to the flight topics of velocity and acceleration and application to take-off and landing performance. Lift, gravity, thrust and drag relationships in accelerated and unaccelerated flight are included. PREREQUISITES: 804-135 - Quantitative Reasoning and 801-136 - English Composition 1

**402-136**
**Aero Science Aviation Weather** 3.00

Covers basic concepts of aviation meteorology including temperature, pressure, moisture, stability, clouds, air masses, fronts, thunderstorms, icing and fog. Analysis and use of weather data for flight planning and safe flying and

interpretation of U.S. Weather Bureau maps, reports and forecast are discussed. COREQUISITES: 402-129 - Aviation/ Introduction

**402-137**
**Aero Science Instrument** 3.00

An advanced aviation ground course designed to prepare a student for the FAA Instrument Airplane rating written examination. PREREQUISITES: 402-140 - Flight Private Pilot

**402-138**
**Aero Science Aviation Safety** 3.00

This course will develop the student's awareness and understanding of the safe, legal, and efficient operation of an aircraft in the modern aviation environment. This will be accomplished through the study of specific listed topics, NTSB reports, and presentation by aviation professionals.

**402-139**
**Aero Science Engine/ Structures/ Systems** 3.00

Principles of aircraft engine theory and operation including construction, lubrication, carburetion, ignition, supercharging and propellers. Principles of aircraft structures including basic stresses, types of construction, advantage of each type and an overview of FAA repair procedures.

**402-140**
**Flight Private Pilot** 3.00

Introduces the student to flight. Develops the necessary skills and knowledge to

solo and prepare for the private pilot flight test. COREQUISITES: 402-129 - Aviation/ Introduction

**402-140C**
**Flight Private Pilot A** 1.00

This is the first of 2 courses (402-140C and 402-140D) required to attain a private pilot certificate. Introduces the student to flight. Develops the necessary skills and knowledge to solo. Part B must be taken either the same semester as Part A, or no later than the following semester. COREQUISITES: 402-129 - Aviation/ Introduction

**402-140D**
**Flight Private Pilot B** 2.00

This is the second of two courses (402-140C and 402-140D) required to attain a private pilot certificate. Develops the necessary skills and knowledge to prepare for the private pilot flight test. Part B must be taken either the same semester as Part A, or no later than the following semester. PREREQUISITES: 402-140C - Flight Private Pilot A

**402-145**
**Flight/Certified Flight Instructor Airplane** 2.00

Prepares the commercial rated pilot for the FAA flight instructor airplane certificate. PREREQUISITES: 402-177 - Professional Piloting IV COREQUISITES: 402-134 - Aero Science Certified Flight Instructor Airplane and 402-131 - Aero Science Fundamentals of Instruction

**402-146**
**Flight Certified Instructor Instrument** 1.00

Prepares the CFI for the addition of an instrument instructor rating to the flight instructor certificate. PREREQUISITES: 402-145 - Flight/Certified Flight Instructor Airplane

**402-166**
**Aeronautical Skills Development** 1.00

This flight course will prepare the student for the completion of an FAA certificate or rating.

**402-170**
**Professional Piloting I** 3.00

This is the first in a series of four courses approved as an FAA Part 141 combined commercial instrument certification course. This course will focus on instrument flying skills. Additionally, the student will receive experience operating a multi-engine aircraft. PREREQUISITES: 402-140C - Flight Private Pilot A minimum grade C Complete 402-140D - Flight Private Pilot B minimum grade C COREQUISITES: 402-137 - Aero Science Instrument

**402-171**
**Professional Piloting I** 2.00

This is the first in a series of four courses approved as an FAA Part 141 combined commercial/ instrument certification course. This course will focus on the addition of the multi-engine rating to the student's existing private pilot certification. PREREQUISITES: 402-140 - Flight Private Pilot or 402-140D - Flight Private Pilot B with a minimum grade of C or TR COREQUISITES: 402-137 - Aero Science Instrument

## 402-173
**Professional Piloting II** 2.00

In this course, students with existing private pilot certification develop instrument skills. This course is approved as an FAA Part 141 Instrument certification course. This course will focus on the addition of an instrument rating to the student's existing private pilot certificate. Flight instruction will be conducted in a single-engine aircraft. Upon completion of the course under Part 141, students will receive an endorsement for the FAA Instrument Airplane Practical test. COREQUISITES: 402-137 - Aero Science Instrument

## 402-175
**Professional Piloting III** 2.00

In this course, students participate in the second of three flight courses approved for the FAA Part 141 combined commercial/instrument certification. Upon completion of this course under part 141, students will have met the cross country aeronautical experience requirements for our FAA Part 141 approved combined commercial/instrument certification course. PREREQUISITES: 402-173 - Professional Piloting II COREQUISITES: 402-133 - Aero Science Commercial

## 402-177
**Professional Piloting IV** 2.00

In this course, students participate in the third of three flight courses approved for FAA Part 141 combined commercial/ instrument certification. Students focus on flight training to acquire skills necessary to meet the requirements of the FAA Commercial Pilot Certification. Upon completion of the course under Part 141, students will receive an

endorsement for the FAA Commercial Pilot Airplane Practical test. PREREQUISITES: 804-135 - Quantitative Reasoning and 801-136 - English Composition 1 COREQUISITES: 402-175 - Professional Piloting III

## 410-506
**Carpentry Review** 1.00

An overview of construction Carpentry principles including printreading, site layout, foundation, floor, wall, and roof construction, exterior and interior finish work and stairbuilding.

## 412-105
**Diesel Control Systems, Advanced** 4.00

This course will continue to develop the knowledge and skills required to troubleshoot, repair and maintain heavy duty vehicle control systems. Emphasis will be place on the skills that are required of a technician to utilize advanced electronic diagnostic tools. Topics include multiplex systems, active and inactive codes, system reprogramming intermittent codes (EBS), electronic braking systems, control systems and hydraulic control systems. The theory and operation of the Global Positioning System (GPS) and related systems will be covered. This course will help the student prepare for ASE certification. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental 412-108 - Diesel Electricity 2 412-109 - Diesel Engine Service 412-112 - Diesel Drive Trains or courses 412-126 - Construction Equipment Drive Train 412-113 - Diesel Fuel Systems, Advanced 412-114;

## 412-106
**Diesel Brake Systems** 4.00

This course will develop the knowledge and skills required to troubleshoot, repair and maintain heavy duty vehicle braking systems. Hydraulic and pneumatic drum and disc systems will be covered. This course will help prepare for ASE certification. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental and courses 412-117 - Diesel Suspension and Steering Systems or 412-125.

## 412-107
**Diesel Electricity 1** 4.00

This course will develop the basic knowledge and skills required to troubleshoot, repair and maintain basic electrical/electronic systems that are utilized on today's heavy duty vehicles. Emphasis will be placed on the Direct Current (DC) fundamentals and vehicle charging and starting systems. This course will help the student prepare for ASE certification. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental with a minimum grade of C

## 412-108
**Diesel Electricity 2** 3.00

This course will focus on the development of troubleshooting and repair skills as they relate to electrical systems found on heavy duty vehicles. An emphasis will be placed on the understanding and application of electronic diagnostic tools and their application to modern heavy duty vehicles. This course will help the student prepare for ASE certification. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental and 412-107 - Diesel Electricity 1

## 412-109
**Diesel Engine Service** 5.00

This course provides the student with the knowledge and skills required to maintain basic diesel engines. Students will gain practical experience in rebuilding, testing, and troubleshooting by disassembling a diesel engine, inspecting it's components, explaining their function and reassembly. Diesel engine cooling and lubrication systems will be included. This course will help the student prepare for ASE certification. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental and 412-110 - Diesel Fuel Systems

## 412-110
**Diesel Fuel Systems** 3.00

This course develops the knowledge and skills required to maintain basic diesel fuel systems. Operation and troubleshooting of system components such as fuel supply systems, fuel injection pumps and injectors, intake systems, turbo chargers and exhaust systems will be included. This course will help the student prepare for ASE certification. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental 801-136 - English Composition 1 804-135 - Quantitative Reasoning

## 412-111
**Diesel Maintenance Fundamental** 2.00

The student will develop the knowledge and skills to operate in today's heavy duty vehicle repair facility. Shop safety, hazardous material handling, hand tool identification and tool and personal safety will be emphasized. Skills development will be stress in the areas of precision measurement instrument usage, basic

mechanical skills, and basic wiring skills learn the basic skills. Additionally, the course will include instruction on use of electronic information services, hard copy shop manuals and Wisconsin automotive practice regulations (ATCP132.) COREQUISITES: 804-135 - Quantitative Reasoning

**412-112**
**Diesel Drive Trains**                    **4.00**

The student will develop the knowledge and skills required to troubleshoot, repair and maintain heavy duty vehicle power trains. Topics will include clutches, manual transmissions, drive shafts, universal joints, and drive axles. This course will help the student prepare for ASE certification. PREREQUISITES: 412-106 - Diesel Brake Systems and 412-111 - Diesel Maintenance Fundamental COREQUISITES: 801-136 - English Composition 1

**412-113**
**Diesel Fuel Systems, Advanced**     **3.00**

The student will develop the knowledge and skills required to troubleshoot and repair advanced heavy duty vehicle fuel systems. Fuel designs and characteristics (including alternative fuels), electronic management control and emission control systems will be emphasized. Exploration of diesel hybrid systems will be included. This course will help the student prepare for ASE certification. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental, 412-110 - Diesel Fuel Systems, 412-107 - Diesel Electricity 1, and 412-108 - Diesel Electricity 2

**412-114**
**Diesel Heating, Cooling and Air Cond**                                  **3.00**

This course will develop the knowledge and skills required to troubleshoot, repair and maintain heavy duty vehicle heating, cooling and air-conditioning systems. Students will be required to take and pass the federal and state air-conditioning certification. This course will help the student prepare for ASE certification. PREREQUISITES: 412-107 - Diesel Electricity 1 and 412-111 - Diesel Maintenance Fundamental

**412-115**
**Diesel Hydraulic Systems**          **2.00**

This course will provide the application of basic hydraulic principles as they relate to typical heavy duty vehicle applications. The student will develop the knowledge and skills required to diagnose, service and repair and maintain hydraulic systems and components including valves, pumps, and cylinders. Servicing, diagnosing and preventive maintenance prodedures will be performed on trucks and other equipment. This course will help the student prepare for ASE certification. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental

**412-116**
**Diesel Preventative Maintenance**   **3.00**

The student will develop the knowledge and skills that are required to conduct preventative maintenance on today's heavy duty vehicles. Students will become familiar with established industry standards and regulations (state and federal) and the NORTH AMERICAN out of service criteria. Vehicle inspections will be conducted on both on and off road vehicles with emphasis on component identification and inspections

and preventative maintenance services. This course will help the student prepare for ASE certification. PREREQUISITES: 412-106 - Diesel Brake Systems and 412-111 - Diesel Maintenance Fundamental and course 412-112 - Diesel Drive Trains or 412-126 - Construction Equipment Drive Train

**412-117**
**Diesel Suspension and Steering Systems**                             **3.00**

This course will focus on the skills and knowledge required for today's technician to effectively diagnose, service and repair heavy duty suspension systems. Analysis of the construction and working principles of chassis components including vehicle frames, suspension systems, steering systems, wheels and tires will be covered along with wheel alignment. This course will help the student prepare for ASE certification. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental

**412-118**
**I/C Engines**                            **3.00**

This course provides the student with knowledge of gas and diesel engine theory. Its focus will be operation, maintenance, and repair of diesel and gasaoline powered engines. Lubrication and cooling systems will also be covered. PREREQUISITES: 412-121 - Shop Tools and Safety Principles with a minimum grade of C or TR

**412-119**
**Mobile Electrical Systems**         **3.00**

This course introduces the student to electrical theory in terms of voltage, amperage, resistance, and impedance in various circuits. Operation and

troubleshooting methods using multimeters will be covered. Students will learn how to read and utilize electrical schematics and symbols. Batteries, starting circuits, charging circuits and electrical accessories will be covered.

**412-120**
**Mobile Hydraulic Systems**         **3.00**

This course introduces the students to the fundamentals of fluid power, components, different hydraulic systems, hydraulic schematics and terminology of the hydraulic systems used on modern mobile equipment. Includes operation of fluid flow on various systems, maintenance, and system diagnostics.

**412-121**
**Shop Tools and Safety Principles**  **2.00**

This course will introduce the student to the diverse mechanical skills required in today's service and repair facilities for mobile equipment. The student will demonstrate, through practical hands-on lab exercises, the proper care and use of common hand and power tools. General drilling, tapping, threading, and proper lifting and supporting various mobile equipment will also be focused on. The student will also be required to use test instruments to gather data on length, volume, area, depth, and torque. Safety is stressed in this course.

**412-122**
**Professional Practices**            **3.00**

In this course, students will investigate best business practices, examine workplace liability topics, and explore professional communication. Students will be introduced to monitoring agencies (OSHA, EPA,

DOT, DNR) and federal, state, and local regulations. PREREQUISITES: 412-116 - Diesel Preventative Maintenance with a minimum grade of C or TR

**412-123**
**Diesel Equipment Technology Internship** 3.00

In this internship, students will participate in a planned diesel equipment technology learning experience in the workplace. Through direct occupational experience, students will participate in the supervised performance of maintenance, troubleshooting, and repair activities of diesel components. Worksite activities will focus on advanced fuel systems, engine overhaul, advanced control systems, and hydraulics. PREREQUISITES: 412-116 - Diesel Preventative Maintenance with a minimum grade of C or TR, 801-196 - Oral/Interpersonal Communication, and 801-197 - Technical Reporting

**412-124**
**Diesel Equipment Mechanic Internship** 3.00

In this internship, students will participate in a planned diesel equipment mechanic learning experience in the workplace. Through direct occupational experience, students will participate in the supervised performance of maintenance, troubleshooting, and repair activities of diesel componenets. Work site activities will focus on basic electrical, HVAC, steering and suspension, brakes, drive train, and preventative maintenance. PREREQUISITES: 412-116 - Diesel Preventative Maintenance with a minimum grade of C or TR

**412-125**
**Construction Equip Dr/Steering System** 3.00

This course will highlight an analysis of the construction and working principles of chassis components on heavy equipment. Included will be frames, suspension systems, steering systems, wheels and tires, tracks and undercarriage. Prepares the student with the knowledge and skills needed to adjust, diagnose, service and repair heavy duty suspension systems. Through participation in this course, students can prepare for AED Technical Assessments. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental with a minimum grade C

**412-126**
**Construction Equipment Drive Train** 4.00

The course will provide training with heavy equipment for proper diagnosis and repair of clutches, manual transmissions, drive shafts, universal joints, drive axles and planetary. Diagnostic and service procedures will apply to the heavy equipment construction industries. Through participation in this course, students can prepare for AED Technical Assessments. PREREQUISITES: 412-111 - Diesel Maintenance Fundamental 412-106 - Diesel Brake Systems 412-125 - Construction Equip Dr/Steering System with a minimum grade C

**412-127**
**Construction Hydraulic Systems** 4.00

This course will provide the conditioned development of hydraulic principles and understanding of compounds used in heavy and light equipment. The student will experience activities with advanced hydraulic components including, disassembly and assembly of pumps, motors, accumulators, mechanical and electrical controlled hydrostatic systems. Servicing diagnosing and preventive maintenance procedures will also be performed on heavy equipment. Through participation in this course, students can prepare for AED Technical Assessments. PREREQUISITES: 412-108 - Diesel Electricity 2 412-109 - Diesel Engine Service 412-111 - Diesel Maintenance Fundamental 412-115 - Diesel Hydraulic Systems 412-126 - Construction Equipment Drive Train with a minimum grade C

**413-501**
**Arithmetic and Introduction to Algebra For Electrical Crafts** 1.00

This course is an intensive review of arithmetic, with emphasis on common and decimal fractions, ratio and proportion, percentage, systems, units of measurement, conversions, and square root. An introduction to algebra, including terminology, additive functions, grouping symbols, axioms, basic procedures, multiplication, and division, is included.

**413-502**
**Electrical Circuitry Algebra and Trigonometry** 1.00

This course covers sign numbers, grouping symbols, factoring equations in one unknown, fractions, fractional equations, exponents and radicals, solution of simultaneous equations, and an introduction to factors.

**413-503**
**Basic AC/DC Current Motor Control** 1.00

This course is an introduction to DC and AC motor control concepts. Topics include: fundamental concepts of electricity and magnetism, three phase motors, single-phase motors, DC motors and generators, and DC motor controls.

**413-505**
**AC/DC Fundamentals Apprentice** 1.00

**413-506**
**Electrical Theory I/Construction** 4.00

Introduces the apprentice to the basic electrical concepts of structure of matter, electron theory; Ohm's law for series-parallel circuits; volt and current measurements; conductors and resisters; electrical power and energy; and the National Electrical Code.

**413-510**
**Motor Control** 1.00

The principle objective is to present the fundamentals of motor control by developing the ability to read and draw control circuits given many control problems using schematic, wiring and piping diagrams.

**413-516**
**Electrical Theory II/Construction** 4.00

**413-521**
**Polyphase Alternating Current Fundamentals** 1.00

Students learn about three and four wire two-phase circuits, three-phase induction,

star and delta circuits, power balanced and unbalanced loads, transformer principles, characteristics, and connection, electrical instruments, self synchronous systems, protective relays, lamps, and illumination.

**413-522**
**Electrical-Mechanical**
**Blueprint Reading                    1.00**

This course consists of practice in: print reading using large blueprints for process control for temperature control, flow, and pressure; delta-Y connections; application of electronic controls; circuits for automated systems; systems using programmable controllers; application of motor control circuits; power wiring layout; plant layout; and interconnecting wiring.

**413-526**
**Electrical Theory III/Construction    4.00**

**413-528**
**Direct Current Fundamentals        1.00**

This course covers electron theory, Ohm's Law, series and parallel circuits, power, Kirchoff's Law, work effective heat torque, motor sizes, wire sizes, voltage drop, wiring systems, and kinds of wire insulation.

**413-529**
**Single Phase AC Fundamentals        1.00**

This course covers properties of alternating current, AC measurement, inductance and inductive resistance, capacitance and capacitive resistance, impedence, series and parallel AC circuits, resonance, and power and power factor correction.

**413-531**
**Industrial Electronics Fundamentals  1.00**

This course is an introduction to electronics, which includes semi-conductor theory and circuits, transistor theory and circuits, power supplies, integrated circuits, oscillator circuits, photosensitive devices, and pulse circuits.

**413-536**
**Electrical Theory IV/Construction    4.00**

**413-537**
**Wiring Commercial and Industrial    1.00**

This course covers the accurate interpretation of the requirements of the NEC with regard to industrial wiring. The text includes industrial building plans and blueprints. The course builds upon the knowledge and experience gained from working with the text, the NEC, and blueprints.

**413-538**
**Alternating Current Fundamentals    1.00**

This course covers alternators, rotating magnetic fields, AC motors, speed control, types of winding, and an introduction to AC motor control.

**413-539**
**National Electric Code (BAT)        1.00**

This course is a study of national and local electrical codes for wiring and apparatus. It covers wiring design and protection, wiring methods and materials, general use equipment, special occupancies, special equipment, and the use of tables and

diagrams for the solution of practical wiring problems.

**413-540**
**Automation Circuits and**
**Introduction to                        1.00**

This course is an introduction to programmable controllers, specifically the Allen Bradley SLC-500. It covers basic instructions, programming software, input and output files, timers and counters, and programming instructions.

**413-541**
**Electronic Controller Applications    1.00**

This course covers electronic motor controls, DC motor control by means of phase shifters, three phase rectifiers, AC motor controls, adjustable frequency drives, and synchronous motor controls.

**413-546**
**Electrical Theory V/Construction      4.00**

**413-548**
**Programmable Logic Controllers I    1.00**

This course is an introduction to programming techniques, hardware configuration, and theory of operation of a programmable logic controller. The Modicon industrial controller is the system to be studied.

**413-556**
**Electrical Theory VI/Construction    4.00**

**413-557**
**AC Electricity                        2.00**

This course is designed to introduce the industrial electrical student to the basic concepts of alternating current. Emphasis is placed on circuit analysis and the problem solving skills necessary for the maintenance of modern industrial electric systems.

**413-558**
**Codes 2: OCPD/Electrical Device**
**Install                                0.50**

In this module of Codes for Industrial Electricians, students will learn how to plan for the installation of overcurrent protection devices and how to select the proper boxes, cabinets and conduits for industrial electrical installations as called for in the NEC and other electrical codes.

**413-559**
**Codes 3: Article 250 Part A          0.50**

This course examines the application of grounding to industrial electrical situations as required by the NEC and other electrical codes.

**413-562**
**Codes 4: Article 250 Part B          0.50**

This course examines Article 250 and grounding applications for industrial electrical installations. Students will complete their review of this portion of the NEC and examine additional related codes in effect across Wisconsin.

**413-563**
**Codes 5 Art.300, Crds/Cble,**
**Haz Install**                    **0.50**

This course examines Article 300 of the NEC and wiring methods for industrial electrical applications. Students will determine sizing requirement for cords and cables for installations common to industrial facilities. This course will identify code requirements for equipment installations in hazardous locations.

**413-564**
**Codes 6 Cond., Raceways,**
**Data/Comm Cabl**                 **0.50**

This course covers the selection of proper conductors and raceways for industrial electrical installations as required by the NEC and other electrical codes. Course competencies will include examining the installation requirements for data and communication cables.

**413-569**
**Codes 7: Motors and Generators**     **0.50**

This course reviews the code requirements for the selection of electrical components for typical industrial electrical motor installations. Course module includes sizing of controls, conductors, switches, branches, and more.

**413-570**
**Codes 8: Transformers**          **0.50**

This course reviews the electrical code requirements which provide for the protection of various industrial transformer installations. Course competencies include developing plans, sizing equipment and components, safety, and references to applicable sections of the NEC.

**413-571**
**Codes 1: Introduction to NEC**      **0.50**

This course introduces the student to the layout and purpose of the National Electric Code. It will teach the student proper methodology to research a code question and correctly interpret what is read. Students will research the structure of the NEC and define the requirements of the code that are common to all electrical installations. Students will examine the installation requirements for fire pumps, emergency systems and fire alarms.

**413-576**
**DC Electricity**                 **2.00**

This course introduces the fundamental concepts of and computations related to DC electricity. Emphasis is placed on circuit analysis and the problem solving skills necessary for the maintenance of modern industrial electric systems. Competencies related to metering and safe use of measuring devices are included.

**413-577**
**Motor Controls 1**              **1.00**

This course will lead the student through the fundamentals of electric motor control. Students will learn to recognize and draw the basic symbols, the language of motor control, and how to apply these symbols into current industrial format. Students will learn to draw and read ladder and wiring diagrams. Students will be introduced to the logic used in motor control and be required to apply this logic in order to correctly interpret, design, and wire control circuits.

**413-578**
**Motor Controls 2**              **1.00**

This course will examine motor controls applicable to the industrial electrician trade.

**413-579**
**Motor Controls 3**              **1.00**

This course examines motor controls applicable to the industrial electrician trade. Applications and assessment activities are intended in this course.

**413-586**
**Motors and Generators**         **1.00**

This course introduces concepts, terminology, and safety. This course is designed to give the student the knowledge required by industry to maintain electric motors and generators. This course will cover DC motors and generators, single phase motors as well as alternators.

**413-587**
**Power Systems and Variable Speed**
**Drives**                        **2.00**

This course provides the opportunity for students to learn about power systems and variable speed drives. Topics include electricity, electronics, power transmissions, motor operations, AC and DC motor drives, servo and stepper drives, peripherals and communication. Students will also explore closed loop control, feedback devices, and drive maintenance and the troubleshooting of VSD's.

**413-588**
**Solid State Electronics**       **2.00**

This course provides the student with the skills and knowledge for troubleshooting basic solid-state devices and circuits. The construction, identifications, and operating characteristics of solid-state devices is investigated. The student builds test circuits, gathers and analyzes data, and follows safety procedures. Methods for locating defective componenets are applied. The replacement of printed circuit board components is performed. Also examined is the effect of temperature on the operation of solid state devices.

**413-589**
**Transformers**                  **1.00**

This course is designed to introduce the Industrial Electrician student to the basic concepts of single and three-phase transformers. The course will cover transformer theory, turns, current and voltage ratios as well as proper connections and use of various transformers.

**413-590**
**National Electrical Codes**      **1.25**

This course comprehensively covers the National Electrical Code. It is designed to acquaint the student with NEC calculations, NEC theory, and NEC content. This program explains the strategies of taking an exam and you get to see how prepared you are by taking simulated tests for the Journeyman or Masters Electrician Exam.

**413-591**
**Troubleshooting Electrical Systems**  **1.00**

Learn electrical and electronic system applications, alternate energy systems, NFPA 70E requirements, step by step procedures for troubleshooting and hands on activities. Gain knowledge for troubleshooting modern technology such

as solar, security systems, robotics, lighting systems, charging systems wind turbines and others.

**413-592**
**Troubleshooting Elect Motors** 1.00

Learn procedures for troubleshooting motors, generators and motor circuits commonly used in commercial, industrial, institutional and residential applications. Learn: how to locate problems using test instruments, proper motor replacement, safety, latest technology applications, proper code compliance and how to analyze problems for best solution.

**413-593**
**Grounding and Bonding Electrical System** 1.00

This in-depth course provides the student with practical knowledge of code compliant grounding and bonding of electrical systems. Students will learn when and when not to ground electrical systems, different types of grounding techniques and how to properly install them.

**413-594**
**Grounding and Bonding II** 1.00

This in-depth course provides the student with practical knowledge of code compliant grounding and bonding of electrical systems. Students will learn when and when not to ground electrical systems, different types of grounding techniques and how to properly install them.

**413-595**
**Fluid Power Systems - Hydraulics** 0.50

The hydraulics course is customized for Industrial Electricians and relates the basics of hydraulic theory and hydraulic components. Safety and the interrelationship between hydraulic power with electrical control is emphasized.

**413-596**
**Fluid Power Systems - Pneumatics** 0.50

This is a pneumatics course customized for industrial electrician students who deal with fluid power systems. This course will relate the basics of pneumatic theory and pneumatic components. Safety and the interrelationship between pneumatic power with electrical control is emphasized.

**413-597**
**Green Awareness for the E and I Trades** 1.00

Green Awareness for the E and I trades examines new and emerging technolgoies influenced by green trends which are impacting work processes today and in the future. The course introduces students to green related knowledge and skills. Green topics covered in this course include energy efficiency; energy conservation; changes in state, national and local codes; lighting alternatives; alternative energy generation; energy efficient motors, drives, controllers and equipment; eliminating toxic materials and reducing wastes; and specific "green" applications for the various trades involved under the E and I trades.

**413-598**
**Programmable Logic Controllers 1** 1.00

This course is designed to teach fundamentals of programmable logic controller and its programming software. This course will introduce terminology, concepts, print reading and safety.

**413-599**
**Programmable Logic Controllers 2** 1.00

This is the second of 3 courses for industrial electrician students.

**413-600**
**Programmable Logic Controllers 3** 1.00

This is the third course of 3 for industrial electrician students. PLC applications and assessment projects are planned.

**413-601**
**Safety and Print Reading** 0.50

This course will aquaint the student with the interpretation of "Prints" (blueprints) and other engineering and manufacturing documentation. The primary focus of the course will be on the basics of prints and how they are used to convey information to technicians. Application of electrical prints from industrial settings will be studied.

**413-602**
**AC and DC Motors** 1.00

This course identifies the components of an AC motor, introduces the student to DC motors, basic components and theory, and discusses split-phase motors and capacitance start motors. Defines and explains AC motor functions, synchronous

speed and how to calculate it, the components and functions of various three-phase motors, the components and functions of externally excited motors, starters, and variable speed drives, basic magnetic principles, sine waves, methods of increasing magnetic flux in a conductor, how rotating field is created in an AC motor, torque, and role in motor operation, and the components and functions of externally excited motors, starters, and variable speed drives. Demonstrates the relationship between phased current and roto spin, induction, its effect on a rotor, armature reaction, compensations, and introduced voltage. Trains the student to practice slip and how to calculate it using a formula and distinguish single-phase motors from three-phase motors.

**413-603**
**Solid State Electronics Basics** 1.00

This course provides the student with the skills and knowledge for troubleshooting basic solid-state devices and circuits. The construction, identifications, and operating characteristics of solid-state devices is investigated. The student builds test circuits, gathers and analyzes data, and follows safety procedures. Methods for locating defective components are applied. The replacement of printed cirucuit board components is performed. Also examined is the effect of temperature on the operation of solid state devices.

**413-604**
**Variable Speed Drives** 1.00

This course provides the opportunity for students to learn about power systems

and variable speed drives. Topics include electricity, electronics, power transmissions, motor operations, AC and DC motor drives, servo and stepper drives, peripherals and communication. Students will also explore closed loop control, feedback devices, and drive maintenance and the troubleshooting of VSD's.

**413-701**
**Elect. Safety and Print Reading**
**Electrical Safety and Print Reading   1.00**

This course is designed to provide basic electrical skills to those who need to perform first-line electrical maintenance tasks including the safe isolation, replacement, and testing of a range of common electrical devices (motors, sensors, heating elements, solenoids, etc.) in a safe and effective manner. In addition to basic electrical skills, this course will acquaint the student with the interpretation of "Prints" (blueprints) and other engineering and manufacturing documentation. The primary focus of the course will be on the basics of prints and how they are used to convey information to technicians. Application of electrical prints from industrial settings will be studied. Importantly, the format of the course is specifically designed so that, when combined with suitable on-site consolidation of training, it will assist the maintenance manager in meeting the legal requirements for employee competence in electrical work.

**413-705**
**Codes for Industrial Electricians      2.25**

This course introduces the student to the layout and purpose of the National Electric Code. It also strives to teach the student proper methodology to research a code question and correctly interpret what they

are reading. Students will research the structure of the National Electric Code and define the requirements of the code that are common to all electrical installations. In addition, students will examine the installation requirements for fire pumps, emergency systems and fire alarms, plan for the installation of overcurrent protection devices and how to select the proper boxes, cabinets, and conduit, the application of grounding, examine Article 250, Article 300 of the NEC and wiring methods, determine sizing requirements for cords and cables for installations common to industrial facilities, the selection of proper conductors and raceways for industrial facilities, the code requirements which provide for the protection of various industrial transformer installations.

**419-511**
**Hydraulic Pumps Apprenticeship      0.75**

The student will be able to design hydraulic pumps using a variety of pressure and flow control valves.

**419-512**
**Hydraulic Controls Apprenticeship   1.00**

The student will study and analyze the effects of various control valve applications.

**419-551**
**Pneumatics Apprentice                 1.00**

Learning is accomplished with lecture and laboratory using hydraulic, pneumatic, and electrical hardware, videotapes, multi-media interactive video, reference books, and computer simulation software.

**419-567**
**Basic Hydraulics Beginning            1.00**

Students study all the basic components of hydraulics in simple fluid power systems, covering topics such as symbols, flow control valves, pressure control valves, and directional control valves and pumps.

**419-570**
**Fluid Power - Apprentice              1.00**

This course introduces the student to all the basic concepts without going into detail and applications.

**420-317**
**CNC Machining Operations              2.00**

This course presents Computer Numerical Control (CNC) concepts and skills. Students learn how to setup and operate CNC machinery. Basic programming, G and M codes, and fundamental features of CNC control panels are introduced. PREREQUISITES: 420-330 - Machine Tool I with a Minimum grade of C or TR

**420-318**
**Die Stamping                          4.00**

This course presents concepts and skills used in the construction of progressive dies. Through critical thinking and practical applications, students will construct two progressive pierce and blank dies that will produce the parts for a non-twist clamp. They will make the hardware that turns the stamped pieces into five separate working clamps and perform entry-level machining tasks for employment in the machining industry. PREREQUISITES: 420-332 - Machine Tool II with a Minimum grade of C or TR

**420-319**
**Electrical Discharge Machining        2.00**

This course presents concepts and skills needed to use CNC programming to operate a wire Electrical Discharge Machine (EDM). Students will program a Mitsubishi wire EDM and perform routine maintenance of the machine and part set-up. PREREQUISITES: 420-317 - CNC Machining Operations with a minimum grade of C or TR

**420-326**
**GD and T for Die Making               1.00**

This course presents concepts to interpret more complex prints and tolerancing techniques. Students will examine part dimensions and assemblies and construct stamping dies. PREREQUISITES: 420-329 - Industrial Print Interpretation with a minimum grade of C or TR

**420-328**
**Heat Treating Processes               2.00**

This course explores the properties of industrial metals with a focus on ferrous metals and tool steels. Students will examine a variety of heat treating applications and will perform metal hardness and stress testing.

**420-329**
**Industrial Print Interpretation       2.00**

This course presents universal techniques for interpreting mechanical and industrial prints. Students learn to visualize parts and assembly through interpretation and sketching activities. Drawing standards, abbreviations, dimensioning rules and sectional views are emphasized. Geometric dimensioning and tolerancing are introduced.

**420-330**
**Machine Tool I**                     **4.00**

This course introduces the basic concepts and skills needed to operate engine lathes, power saws, drill presses and bench applications. Safe and proper operation of tools and machines is emphasized. Students will operate speeds, feeds, cutting tools, tool geometry, tool grinding and work-holding devices. Dimensional accuracy and finished quality will be emphasized.

**420-332**
**Machine Tool II**                    **4.00**

This course expands on the basic concepts and skills introduced in Machine Tool I related to engine lathes, power saws, drill presses, bench applications, CNC setup and operation. Safety and proper operation of tools and machines is emphasized. Speeds feeds, cutting tools, tool geometry, tool grinding and work-holding devices are examined. Dimensional accuracy and finished quality are emphasized.
COREQUISITES: 420-330 - Machine Tool I and 804-370 - Mathematics I/Applied

**420-333**
**Metallurgy Principles**             **1.00**

This course examines the principles concerning the metals used in the industrial world. The production and properties of these materials are presented as well as their application. Students investigate the behavior of ferrous and non ferrous metals with an introduction to steel alloys.

**420-334**
**Precision Measuring and Gauging**   **1.00**

This course introduces the student to precision measuring equipment and techniques. Students will measure a wide variety of interior and exterior part features. Advanced equipment such as the dial caliper and outside micrometer will be presented.

**420-335**
**Surface Grinding**                  **1.00**

This course presents techniques for the precision grinding of various metals. Students perform a variety of complex setups and precise machining. Safety and cleanliness are emphasized.
PREREQUISITES: 420-330 - Machine Tool I

**420-342**
**CNC Introduction and Support Equipment Basics**            **1.00**

This course is designed to give the students a familiarization with the necessary practices and techniques used to operate Computer Numerical Controlled (CNC) machines. Some of the topics covered include CNC machine introduction, safe practices and techniques used to remove burrs, Machinery's Handbook usage, basic CNC machine operator maintenance, and production support equipment use and operation.
COREQUISITES: 420-345 - Gauging/ Inspection and 623-147 - Manufacturing Shop Safety

**420-343**
**CNC Machine Tool Operation**        **4.00**

This course is actual run time in the lab for hands-on machine operation. Students will work in groups and as individuals to gain experience in machine operation during a production run. Students bring together all of the theories learned in other classes and apply them to the production process.

**420-344**
**CNC Offsets and Operations**        **1.00**

In this course, we will cover CNC machine operations. Topics covered include machine homing, tooling used, an understanding of offsets, setting offsets, and the application of offsets in the CNC machine.
COREQUISITES: 420-345 - Gauging/ Inspection

**420-345**
**Gauging/Inspection**                **2.00**

Students will learn to apply blueprint specifications, perform shop math calculations, understand geometric dimensions and tolerances, and correctly use many different analog and digital measuring instruments, including various types of micrometers, calipers, stales, gauges (height, plug, thread, and surface roughness), and optical comparators.
COREQUISITES: 421-376 - Blueprint Reading and 804-370 - Mathematics I/ Applied

**420-494**
**Cost Estimating**                   **0.25**

This course will provide the learner knowledge of the necessary steps to cost and build the various componenets used in manufacturing, including dies, mold, fixtures and gauges. The learner will utilize a hands-on approach to performing cost estimations as if they were in the position of doing so in the real world for a company.

**420-495**
**Grinding, Drilling, and Cut-Off Machine**                         **1.00**

In this course the techniques and machines used for surface grinding, hand grinding, and ID+OD grinding will be reviewed. The use of different types of drilling machines and their functions will be presented, including how they benefit the tool and die maker. The importance of cut-off machines including the various types, pros and cons will also be discussed.

**420-505**
**Machine Technology I**              **1.00**

Survey different areas of machine technology. Variety of areas covered are: safety, measurement, layout, hand tools, drills, grinding, lathe, milling.

**420-506**
**Basic CAD/CAM**                     **1.00**

This course is designed for students in the CNC Apprenticeship program to gain basic knowledge of what CAD/CAM is and how it is effective in the CNC manufacturing area. The student will be introduced to various concepts and methods of producing parts and drawings and then uploading them to the CNC machine for machining. The student will learn the basics of drawing a part from a concept or looking at a drawing and implementing the tools in the CAM program.

**420-507**
**Machine Technology II**             **1.00**

Advanced manual machine operation will be explored in this course. Practical tasks and assignments will be performed on the drill press, lathe, and milling machine.

**420-509**
**CNC Programming and Planning** **1.00**

This course is designed for students in the CNC program to gain knowledge of planning the steps to machine a part and learn how to program the machine using these steps. The student will be given a print and they will need to decide how to hold the part, what features to machine first and second, and why they need to be machined in this order. The student will also learn about various machines and which one works best with their applications in industry. The student will utilize the CAD/CAM from other courses to help with the programming and planning.

**420-510**
**Industrial Manufacturing Tech. Appr. 1** **2.75**

The first semester of related instruction includes an orientation to the trade and manufacturing, then followed by the MSSC safety module, MSSC quality module, OSHA 10 certification, blueprint reading, visual inspection, measurement and first aid and CPR training. Manufacturing concepts will be introduced and applied in a variety of manufacturing settings. MSSC modules 1 and 2 are aligned with the learning plans for this course along with the MATC course Machine Trades Math.

**420-512**
**Industrial Manufacturing Tech. Appr. 2** **2.75**

The second semester of related instruction includes the MSSC manufacturing processes and production and maintenance awareness modules, along with communication, lean manufacturing, problem solving, and frontline leadership. Manufacturing related concepts will be applied to a variety of

industrial settings. The course wraps-up with an examination of emerging trends and technologies, and future directions for manufacturing. MSSC learning objectives in modules 3 and 4 are aligned with the learning plans for this course. In addition, the MATC Communication for Apprentices course is included in the learning plans, but will stand alone for registration and transcript purposes.

**420-516**
**Precision Measurement** **1.00**

This course introduces students to the use of various types of precision measurement instruments used in the CNC/Tool and Die manufacturing environment. The students will learn about different types of Micrometers, Calipers, Gage blocks, and Gage pins. The students will be taught how to measure inside the part with telescoping gauges or Bore gauges. The students will also be introduced to SPC. The method of holding light tolerances will be discussed in this course also.

**420-517**
**Cutting Tools** **0.50**

This course will introduce various types of cutting tools used in the Tool and Die/Mold Maker fields. While in the class, the students will learn the basics of drills and taps to the many different types of inserts, cutting edges and angles associated with these cutting tools. We will also discuss the diferent types of tool holders for these tools and the pros and cons of the different types of holders.

**420-518**
**Machinery Handbook** **0.25**

This course is designed to introduce the students to the Machinery's Handbook. The Machinery's Handbook is an in depth book comprised of information pertaining to the manufacturing world. We will focus on the Tool and Die/Mold making information found in the book. The students will also focus on various ways to look up information using this book.

**420-519**
**Geometric Dimensioning and Tolerancing** **0.25**

This course is designed to introduce the students to Geometric Dimensioning and Tolerancing (GDandT) systems. We will discuss the 5 different groups and the symbols associated within the GDandT groups. The students will be shown how and why the GDandT symbols are used on a blueprint. While introducing the different sysmbols for GDandT, the students will be shown how to check or verify the manufactured parts using these various symbols.

**420-520**
**Precision Measurement** **0.50**

This course introduces students to the use of various types of precision measurement instruments used in the CNC/Tool and Die manufacturing environment. The students will learn about different types of Micrometers, Calipers, Gage blocks, and Gage pins. The students will be taught how to measure inside the part with telescoping gauges or Bore gauges. The students will also be introduced to SPC. The method of holding light tolerances will be discussed in this course also.

**420-542**
**Metal Science for Metal Trades** **1.00**

This course provides the apprentice with technical related instruction in metallurgy, to learn the proper terminology and technical information used by tool and die makers.

**420-560**
**Machine Trades/Mathematics 3** **1.00**

**420-561**
**Machine Trades/Mathematics 4** **1.00**

**420-569**
**Electrical Discharge Machining Apprenticeship** **1.00**

Course is designed to give apprentices a basic understanding of theory and process of sinker and wire EDM in toolmaking.

**420-592**
**Numerical Control** **1.00**

This course is a basic course as it relates to machine tools. Learning the operation of numerical control and the programming of simple jobs. Designed to introduce numerical control to machine trades apprentices.

**421-316**
**Blueprint Reading/Advanced** **2.00**

Review of basic blueprint reading principles. Deals with more forgings, castings and complex prints. New material introduced includes surface textures, fits, auxiliary views, cast iron, pin fasteners, gears, cams, ratchet wheels, and additional GDT coverage. Students read information units,

perform mathematical calculations, and answer questions pertaining to part prints. PREREQUISITES: 444-337 - Fund of Blueprint and Shop Safety COREQUISITES: 801-301 - Writing Principles and 804-371 - Mathematics II/Applied minimum grade C

**421-376**
**Blueprint Reading** 2.00
Read and interpret information found on shop prints. Students answer questions in text relating to part prints. Learn to visualize objects from various views provided. Perform math calculations to obtain necessary dimensions and tolerances shown by symbols, notes and various views. Covers rectangular coordinate system and inch/metric systems. Introductory information on geometric dimensioning and tolerancing (GDandT).

**421-505**
**Drafting and Sketching** 1.00
One of the most important communication tools used in the modern factory is the drawing. Drawings and sketches are the graphic language used universally in the manufacturing world. Anything from simple mechanisms to complex systems can be graphically described. The skill of drafting and sketching needs to be a part of every mechanic's knowledge base. This course will focus on learning this valuable communication tool. Topics covered include using drafting and sketching tools properly and learning to read and interpret the drawings and sketchings of others. Lecture will be supplemented by individual class exercises that provide actual practice for participants.

**421-515**
**Blueprint Reading I/Metal Trades** 1.00
This course covers the basic principles necessary for training in the interpretation of blueprints and free hand drawings of machine parts.

**421-516**
**Blueprint Reading 2/Machine Trades** 1.00
This course teaches students proficiency in the interpretation of blueprints which illustrate job procedure tactics and their relation to drafting. Special attention is given to drawings which represent common machine processes.

**423-501**
**Equipment Installation** 0.75
Students will layout equipment installations, plan for moving equipment, and set and level equipment.

**423-502**
**Mechanical Power Transmission** 0.75
Course examines drive transmission systems and their applications, including roller chains. Students will develop skills inspecting power transmission systems and troubleshooting mechanical drive systems.

**423-503**
**Packings, Seals, Gaskets** 0.50
Students will examine packing, seals, and gaskets and compare materials and applications. Then skills in layout, cutting, inspecting, removing, and installing these components will be developed.

**423-504**
**Pipefitting and Valves** 0.75
Course introduces students to pipe sizes, materials and schedules, examines fittings, tubing and valves, and develops skills related to layout, installation, and maintenance.

**423-506**
**Sheet Metal and Structural Steel Fab** 0.75
Course compares types of sheet metal and tools used by the trade. Students will develop skills related to fabricating sheet metal and structural steel and then erecting structural steel.

**423-507**
**Vacuum Systems** 0.75
Course introduces principles of vacuum systems and interpreting vacuum system schematics. Students will then develop skills related to installing, repairing, replacing and applying troubleshooting principles to vacuum systems and components. Course examines preventative maintenance techniques commonly used on the job.

**423-508**
**Fasteners** 0.25
Course provides students with a chance to compare fasteners and their uses, analyze fastener failures, and install mechanical fasteners.

**423-530**
**Principles of Power and Hand Tools** 0.50
The basic principles of hand tools and power tools will be explained. Learning will

be accomplished by using a combination of lecture and lab.

**423-535**
**Principles of Power Transmission and Lubrication** 1.00
The basic principles of mechanical power transmission and lubrication will be explored. Learning is accomplished by using a combination of lecture and practical lab.

**423-540**
**Equipment Installation** 0.50
The basic principles of equipment installation will be explored. Learning is accomplished by using a combination of lecture and practical lab.

**423-545**
**Principles of Bearings, Couplings, and Conveyors** 1.00
The basic principles of bearings, couplings, and conveyors will be explored. Learning is accomplished by using a combination of lecture and practical lab.

**423-550**
**Principles of Carpentry and Concrete Work** 1.00
Learning is accomplished by using a combination of lecture and practical lab assignments. The basic principles of carpentry and concrete work will be explored.

**423-555**
**Principles of Structural Steel,**
**Sheet Metal, and Metal Work**    **1.00**

Learning is accomplished by using a combination of lecture and practical lab assignments. The basic principles of structural steel, sheet metal, and metal working will be explored.

**423-560**
**Principles of Screw Threads, Mechanical**
**Fasteners, Adhesives, and Sealants**   **0.50**

Learning is accomplished by using a combination of lecture and practical lab assignments. The identification, application, selection, and making of screw threads and other mechanical fasteners will be explored.

**423-565**
**Principles of Rigging**    **0.50**

Learning is accomplished by using a combination of lecture and practical lab assignments. The basic principles of safe rigging will be explored.

**423-716**
**Metallurgy**    **1.00**

This course develops skills regarding metallurgical concepts. Students will compare various metals and their applications, apply metallurgical techniques to work processes, test metals for hardness, and examine heat treating applications.

**423-724**
**Preventative and Predictive**
**Maintenance**    **1.00**

Course examines both preventative and predictive maintenance concepts as

they apply to millwright work processes and machine maintenance. Students will develop skills related to assessing machine conditions and faults based on both preventative and predictive maintenance.

**423-730**
**Bearings**    **0.75**

Students will examine bearing types and applications, and compare equipment bearings. Learners will develop skills related to bearing inspection, selection, removal, mounting, lubrication and diagnosing bearing failures.

**423-731**
**Couplings and Alignment**    **1.00**

Course compares different coupling types and examines common misalignment problems. Learners will develop skills related to inspecting, troubleshooting, and preparing couplings for removal and installation, and also aligning and lubricating couplings.

**424-510**
**Painting/Decorating I/ Related**    **2.00**

History of apprenticeship, painting and trade organizations. Common trade terms, mathematical review. Materials of the trade, tools and equipment, ladders and scaffolding. Surface preparation and application procedures. Paint failures and remedies, safety will be covered.

**424-511**
**Painting/Decorating II/Related**    **2.00**

Subjects covered: color, its nature and effects. Characteristics and relationship of color. Preparation and mixing of colors.

Types of ladders and their limitations and use. Ground based scaffolds, rigging and off the ground work platforms. Mobile and power scaffolds. Safety and personal protection in ladder and scaffold work.

**424-512**
**Painting/Decorating III/Related**    **2.00**

Surface preparation for wallcoverings. Tools, equipment and adhesives. Wallcovering materials, wallcovering estimating and application. Conventional air spray systems, use of. Safety in spray painting. Airless spray systems. Specialized spray systems and equipment.

**424-513**
**Painting/Decorating IV/Related**    **2.00**

Subjects covered: wood and wood products. Materials and procedures for wood surface preparations. Wood finishing materials and procedures. Maintenance and repair of old finishes. Finishing schedules and finishing problems. Corrosion, film thickness and surface preparation. Safety with special coatings, materials and their use, inspection and testing.

**424-514**
**Painting/Decorating V/Related**    **2.00**

Subjects covered: types of abrasive blasting equipment and their use. Surface preparations with abrasive blasting, selection of abrasives. Blasting standards and specifications. Water blasting, steam cleaning. Blasting exposed aggregate finishes, various parts of a set of blueprints and specifications. Lines, symbols, scales and dimensions. Practice reading architectural and engineering drawings.

**424-515**
**Painting/Decorating VI/Related**    **2.00**

Subjects covered: drywall tools and equipment. Materials of the trade, taping and finishing applications, texturing and special effects, common problems and corrections. Techniques, materials and tools for: glazing, antiquing, woodgraining, marbleizing, stipple finishing, texturing, gilding, stenciling.

**424-517**
**Painting and Decorating VII**    **2.00**

The history of painting, decorating and apprenticeship will be covered along with trade organizations. Painting failures and remedies will be covered and demonstrated.

**427-500**
**Plumbing I/Related**    **2.00**

**427-501**
**Plumbing II/Related**    **2.00**

**427-502**
**Plumbing III/Related**    **2.00**

**427-503**
**Plumbing IV/Related**    **2.00**

**427-504**
**Plumbing V/Related**    **2.00**

**427-505**
**Plumbing VI/Related**    **2.00**

**427-509**
**Waste Vent and Drain**
**Apprenticeship** **1.00**

Students will learn the basic fundamental practices and techniques of waste, vent, and drain piping as they relate to the plumbing code. Learning will be accomplished through a combination of class discussion and practical exercises.

**427-515**
**Plumbing Fundamentals**
**Apprenticeship** **1.00**

Students will learn the basic fundamental practices and techniques of the plumbing trade with an emphasis on safety throughout the course. Learning will be accomplished through a combination of class discussion and practical exercises.

**427-516**
**Plumbing Heating Apprenticeship** **1.00**

Students will learn the fundamental principles of various types of hot water heating systems. Learning will be accomplished through a combination of class discussion and practical exercises.

**427-517**
**Plumbing Code Apprenticeship** **1.00**

Students will learn to use and apply the information contained in the plumbing code book. Learning will be accomplished through a combination of class discussion and practical exercises.

**427-578**
**Green Plumbing Applications** **2.00**

This course provides plumbing apprentices with an introduction to green applications.

Apprentices will be instructed on how to identify, install and maintain a variety of green products and systems. They will apply the Wisconsin Plumbing Code to various installations. This introduction will give an apprentice the basic knowledge to study for a variety of green certifications.

**427-579**
**Plumbing Advanced Topics** **2.00**

Plumbing Apprentices will be required to interpret building plans and specifications, and apply code requirements to site plans, floor plans, and isometric drawings of DWV, water, POWTS, and stormwater systems.

**432-510**
**Sheet Metal Techniques I** **2.00**

**432-511**
**Sheet Metal Techniques II** **2.00**

**432-511A**
**Sheet Metal Techniques II - 54 Hr** **1.50**

**432-511B**
**Sheet Metal Review** **0.50**

An overview of Sheet metal construction and final exam based on previous courses to prepare apprentices for journey worker level work.

**432-512**
**Sheet Metal Techniques III** **2.00**

**432-513**
**Sheet Metal Techniques IV** **2.00**

**432-514**
**Sheet Metal Techniques V** **2.00**

**432-515**
**Sheet Metal Techniques VI** **2.00**

**432-516**
**Sheet Metal Techniques VII** **2.00**

**435-505**
**Industrial Pipefitting I**
**Apprenticeship** **1.00**

The purpose of this course is to provide the student with knowledge and experience in specifying and selecting materials for a particular piping system. Often, there may not be a set design to a specific piping system. A general system may have been designed, but it is the experienced pipefitter who must select components and determine the location and size of piping runs. Pipefitting I is an engineering course that will focus on the mechanical design of a piping system and how to make it both safe and efficient.

**435-506**
**Industrial Pipefitting II**
**Apprenticeship** **1.00**

In our Pipefitting I course, we used an engineering approach to design piping systems. Pipefitting II will take the skills learned in this course and apply them to the actual hands-on application. The student must not only design the piping system, but

select the components and build the system. This course is a measurement of all we have learned previously and should allow the student to showcase the skills learned.

**435-526**
**Drafting for Pipefitters -**
**Apprenticeship** **1.00**

This course instructs students in very basic pipe drafting, graphic symbols for piping, use of the architectural scale rule, visualizations, plan views, and isometric and oblique drawings.

**439-300**
**Basic CAD and Basic Toolroom**
**CAM** **2.00**

This course is designed to introduce the student to Basic CAD (Computer Aided Design) / Basic CAM (Computer Aided Machining) practices used in the tool room. The student will complete a machined part from the beginning to the end using the CAD/CAM software. Each student will draw a part using CAD software, the student will then assign the necessary tools needed to machine the part, and program the tools to machine part. The students will then run the part through a simulator and prove out their program. Once the part is proven they will then download the program to a tool room machine and produce the part safely and correct. COREQUISITES: 804-370 - Mathematics I/Applied

**439-301**
**Tool Room Theory** **1.00**

The Tool Room Theory course will cover topics such as Die Stamping, Jig and Fixtures, Mold Making and advanced tooling techniques. The students will gain

knowledge in each of these topics through various class discussions and hands on displays. This course will also cover various types of cutting tools and their purpose on the machining floor.

**439-505**
**Stamping and Die Design**
**Applications** 1.00
This course presents concepts and skills used in the construction of various types of stamping and forming dies. Students will learn how stamping dies work and what parts make-up the design.

**439-506**
**Mold Die Design Applications** 1.00
Students will research design applications and the construction of various types of molds used in industry today. Instruction will include how molds work and what parts make-up the mold design.

**439-507**
**Milling/Turning 1** 1.00
This course introduces the basic and minor advanced Milling and Turning used in industry today. Safe and proper operation of tools and machines is emphasized. Students will learn speeds and feeds and use various types of tools used on the lathe and mill.

**439-508**
**Milling and Turning II** 1.00
This course is designed for students in the CNC Apprentice program to gain advanced knowledge of the support machines used in the tool room and CNC manufacturing environments. This is an advanced class and uses advanced techniques from the Milling and Turning I course. Students will make advanced parts and fixtures for the

CNC machines. Machine processes used in this class will help support CNC machining methods.

**439-530**
**Die Making/Apprentice** 1.00
This course presents advanced concepts and skills used in the construction of various types of stamping and forming dies. Students will learn how these dies work and what parts make up the die design.

**439-535**
**Jig and Fixture Design** 1.00
This course explores the basic types and functions of jigs and Fixtures, design economics. Design and construction of jigs, fixtures, and specialized workholding topics.

**442-101**
**Welding Basics** 1.00
This lab course covers the fundamentals of welding. Welding, soldering, brazing, and fabrication of various metals are included.

**442-102**
**Introduction to Welding** 2.00
This course provides the theory and practical experience for arc and gas welding techniques. An emphasis is placed on basic safety, equipment usage, and proper procedures. The welding of ferrous and non-ferrous metals will be explored.

**442-302**
**Metal Fabrication I** 3.00
This course is an introduction to basic metal fabrication, including safety, measuring, hand tools, layout, and applications with

shearing, drilling, bending, tack welding, and inspection of final projects.

**442-303**
**Welding/Basics of Robotic Welding** 3.00
This course provides instruction in basic welding robot operation including powering up, homing procedures, powering down, and proper work angles for all welding processes. The student will also learn the importance of proper travel speeds and welding equipment setup to ensure for quality welds when programing robots. A heavy emphasis on robotic cell safety is also included in this course COREQUISITES: 442-321 - Welding/Gas Metal Arc Welding

**442-304**
**Welding/Robotic Advanced GMAW** 3.00
This course builds on the principles taught in both GMAW courses and the Basics of Robotic Welding course and how to integrate those principles to achieve industry-ready robotic programming and welding skills. This course reinforces the importance of safety when working in a robotic welding environment and focuses on all aspects of safely operating and basic consumable replacement and repair. This course also covers fixture and jig building to help create an atmosphere for repeatable weldments for production parts runs.

**442-305**
**Welding/Robotic Advanced GTAW** 3.00
This course reinforces the principles taught in the hands-on GTAW courses along with the Basics of Robotic Welding course and describes how to integrate those principles to achieve industry-ready robotic programming/welding skills. There is a heavy emphasis on the importance of

balancing safety and efficiency in a robotic welding environment. An extensive focus on fixture and jig building design will be incorporated. Students will build their own fixtures to demonstrate the ability to produce production parts with a robot.

**442-306**
**Pipe Gas Metal Arc Welding** 3.00
This course builds on the principles taught in the GMAW classes and provides instruction on the skills necessary for the pipe welding industry. The fundamentals of pipe fit-up, preparation, tacking, and electrode selection for both ASME and API standards. Students will perform open butt GMAW root and fillers with ER70S-2 in 2G, 5G and 6G positions. The course will focus on safely performing work and the necessary qualifications required for the pipe welding environment. COREQUISITES: 442-321 - Welding/Gas Metal Arc Welding

**442-307**
**Welding/Pipe Gas Tungsten Arc**
**Welding** 3.00
This course builds on the principles taught in the GTAW classes and provides instruction on the skills necessary for the pipe welding industry. The fundamentals of pipe fit-up, preparation, tacking, and electrode selection for both ASME and API standards. Students will perform open butt GTAW root and fillers with ER70S in 2G, 5G and 6G positions. Welding on aluminum, stainless, and other alloy pipes will also be performed. The course will focus on safely performing work and the necessary qualifications required for the pipe welding environment. COREQUISITES: 442-322 - Welding/Shielded Metal Arc Welding and 422-323

**442-308**
**Welding/Pipe Shielded Metal Arc Welding** 3.00

This course builds on the principles taught in the SMAW classes and provides instruction on the skills necessary for the pipe welding industry. The fundamentals of pipe fit-up, preparation, tacking, and electrode selection for both ASME and API standards will be covered. Students will perform open butt SMAW welding with E6010, E7018 electrodes in 2G, 5G and 6G positions. The course will focus on safely performing work and the necessary qualifications required for the pipe welding environment. COREQUISITES: 442-322 - Welding/Shielded Metal Arc Welding

**442-309**
**Metal Fabrication I** 2.00

This course provides instruction in basic fabrication techniques, tool identification, tool usage, and layout principles while preparing the student with a good foundation in fabrication. Students will build a series of projects based upon the techniques and tooling introduced. This course emphasizes the use of hands-on application-based learning to create a good foundation of understanding for seamless transition into Metal Fabrication 2.

**442-314**
**Welding/Fundamentals of** 2.00

This course covers the four main welding processes of gas metal ARC (mig wire) shielded metal arc (stick) gas tungsten arc (tig, heliarc) and oxyacetylene weld, cut and braze. Ideal course for beginners, home welders or apprentices.

**442-321**
**Welding/Gas Metal Arc Welding** 3.00

(GMAW; MIG; Short-Arc; Wire. Instructs in basic safety, equipment usages and procedures with various filler metal in four basic welding positions. Instruction in plasma arc cutting of various metals. Provides considerable hands-on experience as well as technical information.

**442-322**
**Welding/Shielded Metal Arc Welding** 3.00

(SMAW,Stick,Stick-Arc) Instructs in basic safety, equipment usages and procedures with five basic welding electrodes in four basic welding positions. Provides considerable hands-on experience as well as technical information. Allows for simulated structural steel welding certification opportunity.

**442-323**
**Welding/Gas Tungsten Arc Welding** 3.00

(GTAW, TIG, Heli-Arc, Tungsten) Instructs in basic safety, equipment usages and procedures with various filler rods in three basic welding positions. Provides considerable hands-on experience as well as technical information.

**442-324**
**Weld Printreading and Fabrication Procedures** 2.00

Instructs in basic graphic communication relating to the welding field. Provides for hands-on application of fabrication from blueprints. Follows American Welding Society welding symbol format.

**442-326**
**Welding/Robotic Advanced GTAW** 4.00

This course covers basic safety, equipment usage, and procedures with a Panasonic VR 008 G2 series robot on programming and advanced gas metal arc welding. COREQUISITES: 442-335 - Welding/Robotic Program and Plasma Cutting

**442-327**
**Welding/Robotic Advanced GMAW** 4.00

This course covers basic safety, equipment usage, and procedures with a Panasonic VR 008 G2 series robot on programming and advanced gas tungsten arc welding. COREQUISITES: 442-335 - Welding/Robotic Program and Plasma Cutting

**442-328**
**Welding/Robotic and Plasma Welding** 2.00

This course covers basic safety, equipment usage, and procedures with a Panasonic VR 008 G2 series robot on programming and plasma welding. COREQUISITES: 442-335 - Welding/Robotic Program and Plasma Cutting

**442-329**
**Welding/Advanced Oxyacetylene** 2.00

Provides advanced welding applications in O-A welding, torch cutting and fitting of structural steel and brazing of alloy materials. Includes Gateway Technical College small pipe weld certification. PREREQUISITES: 442-334 - Welding/Oxyacetylene

**442-330**
**Welding/Advanced Shielded Metal Arc Welding** 3.00

Provides advanced welding applications in SMAW welding with small (3/23 inch) and large (5/32 inch) electrodes hardface, aluminum, structural and pipe applications. PREREQUISITES: 442-322 - Welding/Shielded Metal Arc Welding

**442-332**
**Welding/Advanced Gas Metal Arc Welding** 3.00

Provide advanced welding applications in GMAW welding using various size and types of electrodes of hard and soft wires on structural applications. Includes Gateway Technical College flux cored weld certification. PREREQUISITES: 442-321 - Welding/Gas Metal Arc Welding

**442-333**
**Welding/Advanced Gas Tungsten Arc Welding** 3.00

Provides advanced welding applications in GTAW welding using stainless steel, aluminum and mild steel. Includes Gateway Technical College aluminum tensile certification and steel plate certification. PREREQUISITES: 442-323 - Welding/Gas Tungsten Arc Welding

**442-334**
**Welding/Oxyacetylene** 3.00

(O-A; Gas) Instructs in basic safety, equipment usage and procedures with steel and braze filler rods in the four basic welding positions. Instructs in O-A cutting; providing considerable hands-on experience as well as technical information.

**442-335**
**Welding/Robotic Program and**
**Plasma Cutting**　　　**2.00**

This course covers basic safety, equipment usage, and procedures with a Panasonic VR 008 G2 series robot on programming and plasma cutting. PREREQUISITES: 442-334 - Welding/Oxyacetylene, 442-321 - Welding/Gas Metal Arc Welding, 442-322 - Welding/Shielded Metal Arc Welding, and 442-323 - Welding/Gas Tungsten Arc Welding

**442-336**
**Metal Fabrication II**　　　**3.00**

This course presents layout application, blueprint and weld symbol interpretation, welding, fabrication, equipment set ups, and operation skills to safely complete metal fabrications. Selection of fabrication equipment and its safe operation is emphasized. Tools and techniques used in metal fabrication are introduced and students practice their use. PREREQUISITES: 442-309 - Metal Fabrication I

**442-337**
**Metal Fabrication III**　　　**3.00**

This course provides instruction in advanced fabrication techniques in fixture and jig building, advanced pattern/buck design and construction, and an opportunity for a capstone group project. Students will be responsible for making a fixture and/or jig based off of their design and then create multiple parts to ensure repeatability of the part. This course will be extensively hands-on and application-based. COREQUISITES: 442-336 - Metal Fabrication II

**442-342**
**Welding/Pipe Oxyacetylene Fitting**　**1.00**

Provide cutting and fitting of basic pipe joints. Includes pipe layout. PREREQUISITES: 442-334 - Welding/Oxyacetylene

**442-343**
**Welding/Pipe Shielded Metal Arc Welding**　　　**2.00**

Provide open butt SMAW welding with E6010 in 2G, 5G and 6G positions. PREREQUISITES: 442-322 - Welding/Shielded Metal Arc Welding

**442-344**
**Welding/Pipe Shielded Metal Arc Certification**　　　**2.00**

Provide open butt SMAW welding with E6010 root, E7018 fill i 2G, 5G and 6G positions. Includes Gateway Technical College pipe certification. PREREQUISITES: 442-322 - Welding/Shielded Metal Arc Welding

**442-345**
**Welding/Pipe Gas Tungsten Arc Welding**　　　**2.00**

Provide open butt GTAW with ER70S-2 filler and E7018 filler in 2G, 5G, 6G positions. PREREQUISITES: 442-322 - Welding/Shielded Metal Arc Welding

**442-346**
**Welding/Pipe Gas Tungsten Arc Certification**　　　**2.00**

Provide open butt GTAW root and fillers with ER70S-2 in 2G, 5G and 6G positions.

Provides Gateway Technical College welding certification. PREREQUISITES: 442-323 - Welding/Gas Tungsten Arc Welding

**442-347**
**Welding/Pipe Gas Metal Arc Welding**　　　**2.00**

Provides open butt GMAW in 2G, 5G and 6G positions. PREREQUISITES: 442-321 - Welding/Gas Metal Arc Welding

**442-510**
**Welding Fundamentals (apprentices)**　**1.00**

**442-580**
**Welding Tech I**　　　**1.00**

Students learn how to set up and operate gas welding and shielded metal arc welding equipment and safely function in a welding shop. They weld various joints using gas welding and arc welding processes in the flat position.

**442-581**
**Welding Tech II**　　　**1.00**

Students learn how to set up and operate Acetylene and Mapp gas welding equipment and safely function in a welding shop. They weld various joints using Acetylene and Mapp gas welding processes in the various positions.

**443-101**
**Forklift Operation and Maintenance**　**1.00**

This course is intended to prevent accidents, injuries, and fatalities that may be caused by the improper and unsafe use of forklifts. The course will cover pre-operation, operation,

and load handling by means of presentations and hands-on training. Course participants will earn certification after passing a driving test on a forklift.

**443-311**
**Electrical Applications**　　　**3.00**

This course introduces the student to the basics of building electrical maintenance. Repair and replacement of 110 and 220 volt electrical components are emphasized. PREREQUISITES: 605-107 - Fundamentals of Electricity/Electronics COREQUISITES: 601-111 - Workplace Fundamentals

**443-312**
**Carpentry and Repair, Basic**　　　**2.00**

Basic construction methods and building materials are discussed. Students develop the knowledge and skills to perform a wide range of building maintenance activities. COREQUISITES: 601-111 - Workplace Fundamentals

**443-313**
**Interior Finishing**　　　**2.00**

This course will introduce the student to the basics of building interior finishing. Dry walling, painting, wall papering, and preventative maintenance will be emphasized. PREREQUISITES: 804-370 - Mathematics I/Applied minimum grade C COREQUISITES: 601-111 - Workplace Fundamentals minimum grade C

**443-314**
**Mechanical Systems**　　　**2.00**

The knowledge and skills required to perform basic plumbing installations and repairs are covered. COREQUISITES: 601-111 - Workplace Fundamentals

**443-315**
**Industrial Preventative Maintenance  2.00**
This course will cover the basics of industrial preventative maintenance equipment, scheduling, and repair that will be covered in lecture and lab. COREQUISITES: 601-111 - Workplace Fundamentals minimum grade C

**444-306**
**Swiss CNC Setup and Operation      3.00**
This course will further expose students to the setup of CNC Swiss Style Lathes, tooling, and the bar feeder. The student will setup and operate CNC Swiss-Style Lathes. Parts will be machined from selected programs. This course will also require students to write and produce programs for CNC Swiss Style Lathes. The student will also produce projects on the CNC Swiss Style Lathes using these programs. Setup and cycle reduction time will also be covered. PREREQUISITES: 444-335 - CNC Lathe Set-Up and 444-336 - CNC Mill Set-Up

**444-307**
**Fundamentals of Swiss
CNC Turning                        3.00**
This course demonstrates the similarities and differences between conventional and Swiss turning processes. This course will also review the bar feeder, main collect, guide bushing, gang slide tools and live tool options. Controller orientation and basic programming with the discussion and demonstration of basic swiss-specific G codes will be covered. Machine operation and processes will be the main focus of this course. This course will review the characteristics of hazardous wastes and its safe handling, storage and disposal. PREREQUISITES: 444-335 - CNC Lathe Set-Up and 444-336 - CNC Mill Set-Up

**444-308**
**Fundamentals of Live Tooling        3.00**
This course is acutely aligned to provide the specific skills required to efficiently and effectively operate machines employing the 4 axis part processing to maximize machine productivity. This course covers concepts of CNC machining, set-up and operations, tooling and work-holding systems, and basics of manual part programming for drilling, milling, tapping, as well as boring operations by utilizing G codes. Hands-on practice is an integral part of the class. PREREQUISITES: 444-335 - CNC Lathe Set-Up and 444-336 - CNC Mill Set-Up

**444-309**
**Live Tooling Setup and Operation    3.00**
The course is aligned to providing the knowledge and skills required to "translate" the part drawing into a finished product. Part programs will be created with a consistent focus on identifying those specific part features that readily lend themselves to 4 axis structured programming, and simultaneous machining. The individual will be capable of defining the list of required processes, their optimum sequential order, create the complete CNC part program, install the appropriate tools correctly, establish the program zero points, perform corresponding tool offsets, and related machine safety procedures. PREREQUISITES: 444-335 - CNC Lathe Set-Up and 444-336 - CNC Mill Set-Up

**444-311**
**CNC Lathe Process                  3.00**
This course is designed to provide the knowledge and skills required to create a CNC program that will convert stock material into a finished product. The student will be capable of defining the list of required processes, their optimum sequence, create the complete CNC part program, install the appropriate tools correctly, establish the program zero point, and perform corresponding tool offsets. This course is also an advanced, hands-on study of Computer Aided Design/Computer Aided Manufacturing theory and applications using CAD/CAM software. Emphasis is placed on generating programs using advanced modeling techniques for the CNC Lathe at an intermediate level under moderate instructor supervision. The course is structured to include classroom instructional theory and hands on operation of a CNC Turning Center. PREREQUISITES: 444-335 - CNC Lathe Set-Up and 444-336 - CNC Mill Set-Up

**444-314**
**CNC Mill Process                   3.00**
This course is designed to provide the knowledge and skills required to create a CNC program that will convert stock material into a finished product on a Vertical Machining Center. The students will be capable of defining the list of required processes, their logical / optimum sequence, create the complete CNC part program, install the appropriate tools correctly, establish the program zero point, and perform corresponding tool offsets. This course is also an advanced hands-on study of Computer Aided Design/Computer Aided Manufacturing theory and applications using CAD/CAM software. Emphasis is placed on generating programs using advanced modeling techniques for the CNC Mill at an intermediate level under moderate instructor supervision. The course is structured to include classroom instructional theory and hands on operation of a CNC Vertical Machining Center. PREREQUISITES: 444-335 - CNC Lathe Set-Up and 444-336 - CNC Mill Set-Up

**444-315**
**Intro to Coordinate Measuring
Machine                             1.00**
In this course, students use a coordinate measuring machine (CMM) to measure the geometric characteristics of physical objects. Students measure work piece sizes including diameters, lengths, and distances as well as common features such as planes, lines, points, and cylinders. Students interpret geometric dimensioning and tolerancing (GD and T). Using Calypso Software on a Zeiss CMM, students examine how CMM programs are written and executed. Upon completion of the course, students will be able to perform initial machine start up including probe calibration as well as perform alignments, measurements, dimensioning and manual operation.

**444-331**
**CNC Machining Technology          3.00**
This course provides an introduction to CNC machining processes and the technology that supports them. Some of the processes covered are spot drilling, drilling, reaming, tapping, counterboring, countersinking, defining and calculating speed and feed rates, screw thread identification, and drill sharpening. Students will perform these processes on manual equipment prior to observing them on CNC equipment. Basic computer skills are also covered in this course. COREQUISITES: 444-337 - Fund of Blueprint and Shop Safety

**444-332**
**CNC Production Applications     2.00**

This course is actual run time in the lab for hands-on machine operation. Students will work in groups and as individuals to gain experience in machine operation during a production run. They bring together all of the theories learned, in other classes, to the production process and apply them. PREREQUISITES: 420-342 - CNC Introduction and Support Equipment Basics COREQUISITES: 420-344 - CNC Offsets and Operations and 444-331 - CNC Machining Technology

**444-333**
**Fundamentals of CNC Turning Applications     3.00**

This course provides an introduction to CNC turning processes and their proper application. Some of the topics covered include lathe set-up and operation, lathe safety, types of lathes, lathe workholding devices, lathe cutting tools, grinding and sharpening of lathe cutters, and a review of lathe machining speeds and feeds. In this course, you will perform O.D. and I.D. turning operations on engine lathes as well as facing, drilling, reaming, tapping, grooving, chamfering, boring, knurling, tapering, and thread cutting operations. PREREQUISITES: 444-331 - CNC Machining Technology COREQUISITES: 421-316 - Blueprint Reading/Advanced and 804-371 - Mathematics II/Applied

**444-334**
**Fundamentals of CNC Milling Applications     3.00**

This course provides an introduction to CNC milling processes and their proper application. Some of the topics covered

include machine set-up and operation, machine safety, types of milling machines, use and care of various cutting tools, and a review of milling speeds and feeds. The student will perform face and end milling operations as well as drilling, reaming, tapping, and slotting operations on manual milling machines. The proper use and care of accessories, such as edge finders, digital readouts, dial indicators, and boring heads, and an introduction to a Computer Numerical Control milling machine is also covered.

**444-335**
**CNC Lathe Set-Up     3.00**

Students will produce and troubleshoot CNC lathe set-ups from job packets and machine parts to blueprint specifications. Students will learn simple G and M codes, download programs to machines, graphically verify programs, and prove out parts on 2-axis turning center utilizing various CNC controllers. Set-ups will include faceting, turning, drilling, grooving, and thread operations. Students will also learn to produce some simple tooling necessary to complete various set-ups.

**444-336**
**CNC Mill Set-Up     3.00**

Students will produce and troubleshoot CNC mill set-ups from job packets and machine parts to blueprint specifications. Students will learn simple G and M codes, download programs to machines, graphically verify programs, and prove out parts on 3-axis machining centers using various CNC controllers. Set-ups will include face, end, and profile milling and drilling, slotting, boring, and tapping operations. Students will also learn to produce some simple tooling necessary to complete various set-ups.

**444-337**
**Fund of Blueprint and Shop Safety     3.00**

This course provides students with the skills to read and interpret information found on shop prints. Rectangular coordinate and inch/metric systems will be covered and will allow students to perform math calculations to obtain necessary dimensions and tolerances shown by symbols, notes and various views. Students will also study general shop safety for a machining environment, raising the awareness of workers to the hazards around them and identifying work and personal safety practices. Other safety topics will be covered, including MSDS sheets, personal protective equipment, and lockout tag out. Students who successfully complete this course will be eligible to complete an additional exam to receive MSSC certification.

**444-338**
**Fundamentals of CNC Machine Application     4.00**

This course is designed to give students a familiarization with the necessary practices and techniques used to operate Computer Numerical Controlled (CNC) machines. Some of the topics covered include CNC machine introduction, safe practices and techniques used to remove burrs, basic CNC machine operator maintenance, and production support equipment use and operation. Topics such as machine homing, tooling used, an understanding of offsets, setting offsets, and the application of offsets in the CNC machine will also be covered. Actual run time in the lab will be provided for hands on machine operation. Students will work in groups and as individuals to gain experience in machine operation during a production run, applying theories learned to

the production process. COREQUISITES: 444-337 - Fund of Blueprint and Shop Safety

**444-339**
**Gauging and Quality Control     3.00**

This course introduces the methods and applications of Statistical Process Control (SPC) used in manufacturing operations. Emphasis will be placed upon the concepts of central tendency, variation and normal distribution of data. The development, application, and interpretation of variable and attribute control charts will be the main focus of this course. Students will also learn to apply blueprint specifications, perform shop math calculations, understand geometric dimensions and tolerances, and correctly use different analog and digital measuring instruments, including various types of micrometers, calipers, scales, gauges (height, plug, thread, and surface roughness), and optical comparators.

**457-309**
**Metal Fabrication I     2.00**

This course provides instruction in basic fabrication techniques, tool identification, tool usage, and layout principles while preparing the student with a good foundation in fabrication. Students will build a series of projects based upon the techniques and tooling introduced. This course emphasizes the use of hands-on application-based learning to create a good foundation of understanding for seamless transition into Metal Fabrication II.

**457-336**
**Metal Fabrication II     3.00**

This course presents layout application, blueprint and weld symbol interpretation,

welding, fabrication, equipment set ups, and operation skills to safely complete metal fabrications. Selection of fabrication equipment and its safe operation is emphasized. Tools and techniques used in metal fabrication are introduced and students practice their use. PREREQUISITES: 442-309 - Metal Fabrication I or 457-309 - Metal Fabrication I

**457-337**
**Metal Fabrication III** 3.00

This course provides instruction in advanced fabrication techniques in fixture and jig building, advanced pattern/buck design and construction, and an opportunity for a capstone group project. Students will be responsible for making a fixture and/or jig based off of their design and then create multiple parts to ensure repeatability of the part. This course will be extensively hands-on and application-based. COREQUISITES: 442-336 - Metal Fabrication II or course 457-336 - Metal Fabrication II

**458-301**
**CDL and Inspection Law and Logistics** 3.00

In this course, students examine laws related to the commercial driver's license (CDL) and the operation of a commercial motor vehicle (CMV). Through simulation and hands-on learning experiences, students explore vehicle systems, inspect and operate a CMV safely, and investigate the operations of a tractor semi-trailer. By the completion of the course, students must obtain a CDL instruction permit.

**458-302**
**CDL License, Driving Skills, Safety** 4.00

In this course, students practice driving skills in anticipation of obtaining a commercial driver's license (CDL). Students enhance their skills by driving in a variety of situations and environments they will encounter as a professional driver. They investigate topics related to trip planning, loading procedures, weight distribution techniques, and security issues. Upon completion of the course, students will be able to properly inspect and safely operate a commercial motor vehicle (CMV) in controlled settings. PREREQUISITES: 458-301 - CDL and Inspection Law and Logistics

**458-303**
**Continuous Improvement and Hazard Safety** 3.00

In this course, students improve their operating skills required for the day-to-day demands of the career. Students examine the truck driver's role as a professional. Students apply transportation rules and regulations as they relate to safety, special rigs, and hazardous material. Students must obtain a commercial driver's license (CDL) to successfully complete the course. PREREQUISITES: 458-302 - CDL License, Driving Skills, Safety

**461-120**
**Small Power Equipment** 3.00

Structure and theory of the two and four cycle engines. Troubleshooting, storage, maintenance, and repair of the small gas engine are included. Safety of the operator is stressed along with the use and study of operator's manuals for small power equipment.

**461-300**
**Four Cycle Engines** 3.00

In this course, students will examine the structure and theory of four-cycle engines. Fuel systems, lubrication systems, ignition systems, and valve train operations will be explored. Upon completion of this course, students will be able to disassemble, diagnose engine problems, and reassemble a four-cycle engine. COREQUISITES: 461-307 - Fundamental Shop Skills

**461-301**
**Hydraulic Systems** 3.00

In this course, students will examine mobile hydraulic systems. Various hydraulic components, schematics, and terminology will be explored. Upon completion of the course, students will be able to maintain and diagnose various mobile hydraulic systems. PREREQUISITES: 461-307 - Fundamental Shop Skills with minimum grade of C

**461-302**
**Inboard Engines** 2.00

In this course, students will examine inboard fuel systems, ignition systems, cooling systems, starting systems, and charging systems. Four-stroke marine engine operations will be investigated. Upon completion of the course, students will be able to repair and maintain four-stroke inboard engines. COREQUISITES: 461-300 - Four Cycle Engines and 461-307 - Fundamental Shop Skills with a minimum grade C

**461-303**
**Light Motorcycle Service** 3.00

In this course, students will examine components and systems unique to

motorcycles. Fuel, ignition, suspension, and power train systems will be investigated. Students will apply basic techniques and procedures of small engine service and perform regular maintenance and adjustments to motorcycles. Upon completion of this course, students will be able to perform preventative maintenance and diagnose problems unique to motorcycles. PREREQUISITES: 804-370 - Mathematics I/Applied

**461-304**
**Outboard Engines** 3.00

In this course, students will examine fuel systems, ignition systems, manual and electric starting systems, and charging systems. Lower unit/propulsion systems will be explored. Students will investigate rigging and lifting. Upon completion of the course, students will be able to safely repair and maintain two-stroke and four stroke outboard engines. COREQUISITES: 804-370 - Mathematics I/Applied minimum grade D Course 801-301 - Writing Principles and 801-302 - Speaking Principles

**461-305**
**Power Transmission Systems** 3.00

In this course, students will explore the components of various power train systems. Clutches, sliding gear, and hydrostatic drives will be examined. Upon successful completion of the course, students will be able to apply power train design, operation, adjustment, and maintenance to motorcycle, marine, and outdoor power products. PREREQUISITES: 461-307 - Fundamental Shop Skills with a minimum grade of C

**461-306**
**Recreational Equipment**
**Maintenance** **2.00**

In this course, students will examine components and systems unique to recreational equipment. Fuel, ignition, and suspension systems will be investigated. Trailer systems will be examined. Students will apply basic techniques and procedures of recreational equipment and perform regular maintenance and adjustments. Upon completion of this course, students will be able to perform preventative maintenance and diagnose problems unique to recreational equipment. COREQUISITES: 461-307 - Fundamental Shop Skills prevously or concurrently

**461-307**
**Fundamental Shop Skills** **2.00**

In this course, students will investigate the safe use and proper care of common hand and power tools. General drilling, tapping, threading and precision measurement techniques will be presented. Students will operate forklifts safely. Upon successful completion of the course, students will receive forklift operators certification, Safety and Pollution Prevention (S/P2) certification, and be prepared to seek Starrett Measurement certification.

**461-308**
**Two Cycle Engines** **2.00**

In this course, students will examine the structure and theory of two-cycle engines. Fuel systems, lubrication systems, and ignition systems will be explored. Upon completion of this course, students will be able to disassemble, diagnose engine problems, and reassemble a two-cycle engine. NC3 Torque certification will be

awarded to students upon their successful completion of the course. COREQUISITES: 461-307 - Fundamental Shop Skills previously or concurrently

**462-101**
**Maintenance Machining** **3.00**

Students will learn the operation of machine tools necessary for industrial machine repair. The operation of a lathe, mill, drill press, and band saw will be incorporated in the manufacturing of repair parts and fabrications. Skills using precision measuring tools will also be advanced. PREREQUISITES: 834-110 - Elementary Algebra with Applications with a minimum grade of C or TR COREQUISITES: 606-121 - Blueprint/Schematic Interpretation

**462-102**
**Preventative/Predictive**
**Maintenance** **3.00**

The concepts of preventative and predictive maintenance will be delivered during this course. Preventative maintenance procedures will be developed and performed on complex systems by the students. Predictive technologies as thermal imaging and vibration analysis will be studied and performed. The concepts of Reliability Centered Maintenance and Total Planned Maintenance will also be included. COREQUISITES: 462-103 - Mechanical Power Transmission

**462-103**
**Mechanical Power Transmission** **3.00**

Students will learn bearing design and application, bearing failure and analysis, properties of lubrication and correct lubrication procedures, gear drives, belt drives, gear reduction units, and chain

and shaft drives. Troubleshooting and maintenance of these types of power transmissions will be emphasized. PREREQUISITES: 628-109 - Mechanical Skills for Technicians

**462-104**
**Machine and Equipment Installation** **3.00**

Machine and Equipment Installation will cover the installation and setup of complex machinery and equipment. Precision machine leveling, alignment, laser alignment, and scraping fundamentals will be included in this course. PREREQUISITES: 606-121 - Blueprint/Schematic Interpretation

**462-105**
**Robotics/Material Handling**
**Systems** **3.00**

Students will learn the intricacies of electromechanical material handling systems during this course. Conveyors and robots will be connected to a microprocessor and the appropriate feedback devices to make a complete operational material handling system. COREQUISITES: 620-104 - Electro Hydraulic/Mechanical Systems

**462-106**
**Industrial Mechanic Capstone**
**Project** **5.00**

During this course, students working in a team environment will assemble and test a complex project from a print analysis stage to final testing. Once the system is operational, problems will be introduced to enhance the troubleshooting skills of the students. The concepts of project management will be included in this course. COREQUISITES: 462-102 - Preventative/

Predictive Maintenance and 462-105 - Robotics/Material Handling Systems

**462-503**
**Industrial Mechanic Fundamentals I** **1.00**

The application and safe operation of hand and power tools will be explored in this course. The care and use of precision measuring tools and their application will also be covered.

**462-504**
**Industrial Mechanic**
**Fundamentals II** **1.00**

Manual machine operation will be explored in this course. Practical tasks and assignments will be performed on the drill press, lathe, and milling machine.

**462-521**
**Mechanical Drive Components** **2.75**

This course will deliver the necessary information so the student will be able to select, install, adjust and inspect the following industrial drive components: belts/pulleys, couplings, bearings, chains/sprockets and gears. Futhermore this course will give the student the opportunity to incorporate the above listed industrial drive components into complex mechanical power transmission systems. The lecture portion of the course will be augmented with hands-on exercises.

**469-301**
**Introduction to Gas Utility** **1.00**

This course introduces the individual to the common job tasks and the history of the gas utility industry. Topics covered to

include; the gas distribution system, the characteristics of natural gas and propane, the history and application of Operator Qualifications in the gas utility industry and discussions on customer relation skills.

**469-302**
**Site Safety** 2.00

This course covers pertinent OSHA safety training in the hazards to workers and the general public at active utility sites. Trench safety, including working in and around open trenches, soil identification, confined space identification and entry and performing DOT required traffic control and worker safety in construction zones.

**469-303**
**Intro to Equipment Operations** 3.00

This class submerses the student into the job tasks required by a utility worker on an active site. The students will apply their knowledge of site safety and perform the various tasks required by the utility laborer, equipment operator and crew lead. Students will operate under supervision back hoes, trenchers, directional drills, piercing tools aqnd air compressors in field activities. Proper backing, loading and unloading of trailered loads will also be covered. COREQUISITES: 469-302 - Site Safety

**469-304**
**Field Operations** 4.00

This class is for those who have successfully completed "Intro to Equipment Operation". This Field activities class requires students to perform complex field tasks such as pipe location, pipe burial, installation and repair of main, branch or service runs, trench

compaction and utility covering while being supervised. Also included will be exercises in meter and regulator setting and leak testing piping integrity using both common hand and powered machinery. PREREQUISITES: 469-302 - Site Safety and 469-303 - Intro to Equipment Operations with a minimum grade of C or TR

**469-305**
**CDL Prep for Utility Workers** 1.00

This course introduces the student to the Federal and State of Wisconsin for obtaining a commercial driver license (CDL). The purpose of this course is to familiarize the student with the Wisconsin Commericial Driver's Manual. The class will cover all the sections of the Manual and through practice exams prepare the student to sit and take the appropriate knowledge test required to obtain a State of Wisocnsin Commerical Driver Learner Permit. COREQUISITES: 801-301 - Writing Principles

**469-306**
**Steel Piping** 2.00

The student will be able to identify the common components of a steel distribution and service system. The student will be able to assess weld joints for defects and joint integrity. The student will also be able to demonstrate knowledge of tapping and stopping of steel gas mains. Other topics include the ability to examine/identify corrosion on steel piping and address proper protection of steel from corrosion. The student will also be expected to cut, thread and install common piping and fitting from meter to the appliance.

**469-307**
**Plastic Piping** 4.00

This course covers the history of polyethylene (PE) piping in the gas industry and the proper handling, storage and uses of PE pipe. The students will learn the fusion processes common to the industry such as butt, socket and the use of saddles. The students will also learn the techniques used in the electrofusion process. The students will learn to identify proper joining processes, construct various industry connections that can withstand pressure testing and when cut apart for inspection will pass various test standards. Mechanical stab fittings for pipe connection will also be covered.

**469-308**
**National Fuel Gas Code for Utility Work** 1.00

This course covers the applicable sections of the current NFGC book that apply to the gas utility worker. Air for combustion, proper venting of Category I and IV appliances, proper use of the common venting, pipe sizing and combustion air tables are covered in detail through classroom examples and lab exercises.

**469-309**
**Gas Applicance Operation** 3.00

This course covers the combustion process and sequence of operation of common residential applicances. Topics include water heaters, stoves, gas dryers and heating appliances. Additional coverage of the diferences between Standard, Mid and High Efficiency furnaces and boilers are addressed. The purging, leak detection and

relighting of appliances after gas interruption are also covered.

**469-310**
**Propane Operations** 1.00

This course covers the history of the propane gas industry. The student will be able to identify propane storage containers and their DOT requirements. This class also covers propane combustion, line sizing and safety components unique to propance fired appliances.

**469-311**
**Equipment Operations Introduction** 2.00

This class submerses the student into the job tasks required by a utility worker on an active site. The students will apply their knowledge of site safety and perform the various tasks required by the utility laborer, equipment-operator and crew lead. Students will operate under supervision back hoes, trenchers, directional drills, piercing tools and air compressors in field activities. Proper backing, loading and unloading of trailered loads will also be covered. COREQUISITES: 469-302 - Site Safety

**469-312**
**Field Operations** 3.00

This field activities class requires students to perform complex field tasks such as pipe location; pipe burial; installation and repair of main, branch or service runs; trench compaction and utility covering while being supervised. Also included will be exercises in meter and regulator setting, leak testing and piping integrity using both common hand and powered machinery. PREREQUISITES:

469-302 - Site Safety and 804-370 - Mathematics I/Applied

**469-313**
**Gas Utility Tool Fundamentals**        1.00
This course immerses the student in basic tool usage designed around the gas utility trades. The learners will learn proper tool identification, proper names of these tools, and proper usage of these tools to ensure a safe and efficient work site.

**469-314**
**Plastic Piping**        3.00
This course covers the history of polyethylene (PE) piping in the gas industry and the proper handling, storage and uses of PE pipe. The students will learn the fusion processes common to the industry: such as butt, socket and the use of saddles. The students will also learn the techniques used used in the electrofusion process. The students will learn to identify proper joining processes, construct various industry connections that can withstand pressure testing and when cut apart for inspection will pass various test standards. Mechanical stab fittings for pipe connection will also be covered.

**475-300**
**Building Construction,**
**Introduction to**        3.00
This course presents the varieties, identification, characteristics and uses of wood in the construction industry. Material measurement is introduced. Common fasteners, nails, screws and staples and their appropriate use are examined. Principles of

construction safety are discussed and safe operation of power tools is demonstrated.

**475-301**
**Building Construction,**
**Fundamentals**        5.00
This course introduces the operation of power woodworking machines, portable power equipment, and hand tools. Safety is emphasized. Fasteners common to the construction industry are presented and studied. Site layout and the use of the builder's level, builder's transit, and the laser transit are explored. Building foundations, concrete and formwork are examined.

**475-302**
**Residential Print Reading**        2.00
This course presents the symbols, notations, abbreviations, and conventions that are the architectural language, and acquaints the student with the basic concepts on which residential construction drawings are read and interpreted. COREQUISITES: 804-370 - Mathematics I/Applied

**475-303**
**Framing Techniques I**        3.00
This course presents frame construction techniques related to floor systems and staircases.

**475-304**
**Commercial Print Reading**        1.00
This course is designed to provide print reading experience in commercial construction. Students will review concepts regarding elements commonly found on prints of commercial structures. Included are

types of construction, sitework, structural steel construction, reinforced concrete construction and finish construction. PREREQUISITES: 475-302 - Residential Print Reading COREQUISITES: 801-301 - Writing Principles

**475-305**
**Framing Techniques II**        3.00
This course presents wall layout and framing, rough-opening calculations and layouts for windows and doors. The principles of roof framing including architectural drafting of plan and elevation views for roofs are examined. Principles of layout and cutting of all roof framing members for both equal and unequal pitch roofs are presented. The Wisconsin Uniform Dwelling Code is explored in relation to wall and roof construction. PREREQUISITES: 475-303 - Framing Techniques I and 804-370 - Mathematics I/Applied

**475-306**
**Exterior Trim**        3.00
This course presents the skills and theory related to roof cornice detail, roof coverings, windows, skylights, doors, and decks. Exterior finish methods are explored. PREREQUISITES: 475-301 - Building Construction, Fundamentals and 475-302 - Residential Print Reading

**475-307**
**Interior Trim**        5.00
This course presents techniques for interior trim, mitering, coping and scribing. Door hanging is examined and performed. Newel post, balustrades and handrails are studied and installed. The Wisconsin Uniform Dwelling Code is explained and emphasized.

Solid wood flooring is studied along with several ceiling tile applications. Installation of cabinets is examined and performed. PREREQUISITES: 475-301 - Building Construction, Fundamentals and 475-302 - Residential Print Reading

**482-110**
**Intro to Sustainable Energy**        2.00
Introduction to Sustainable Energy will describe force, work, energy, and power as related to alternative-energy systems. The fundamental operation of the electric power grid is described. The focus of this course is on small business and residential applications of distributed renewable-energy electrical-generation systems like small wind turbines, photovoltaic systems, and fuel cells. This course will be tied to the Alternative Energy Hybrid Systems Integrator Level I Certification examination offered by the Electronics Technicians Association, International.

**482-111**
**Sustainable Energy-Generation**
**of Elec**        2.00
Sustainable Energy: The Generation of Electricity will describe the operation of photovoltaic (PV) systems comprised of solar modules, batteries, battery chargers, and inverters to produce power-grid-quality ac voltage. Wind turbines are also studied including generators, alternators, rectification, inverters, and resistive loading during periods of light loading. Fuel cell characteristics, control and monitoring are also explored. The integration of these three technologies is also investigated. This course will be tied to the Alternative Energy Hybrid Systems Integrator Level

I Certification examination offered by the Electronics Technicians Association, International. PREREQUISITES: 482-110 - Intro to Sustainable Energy

**482-112**
**Sustainable Energy-Capstone Design Proj** **3.00**
The Sustainable Energy: Capstone Design Project course will tie together the topics covered in the "Introduction to Sustainable Energy" course and the "Sustainable Energy: The Generation of Electricity" course through the development of the design and implementation of a sustainable energy project. PREREQUISITES: 482-110 - Intro to Sustainable Energy

**483-170**
**Rotary: Rig Operation** **3.00**
This course introduces the student to the setup and operational controls associated with Geo industry rigs for vertical boreholes. Topics covered will include the different types of rigs, their associated pumps, power take-offs, rig capabilities, rig safety, rig set-up and transport, site hazards and environmental damage awareness. The students under instructor supervision will assist in the set-up and drilling of sample boreholes to various depths using selected bits. PREREQUISITES: 483-174 - Introduction to Ground Loop Methods, and 483-175 - GeoExchange Site Safety

**483-171**
**Rotary: Mud Boring Applications** **3.00**
In this course the requirements for drilling/boring in loose/unconsolidated formations will be covered. The student will learn to drill using drag and tri-cone bits and the proper use of drilling mud and casing to ensure the stability of boreholes. Also covered will be the site management of drilling fluids, sampling of drill tailings and maintenance of drill logs. PREREQUISITES: 483-174 - Introduction to Ground Loop Methods, 483-172 - Grouting and Sanitation, 483-170 - Rotary: Rig Operation, and 483-175 - GeoExchange Site Safety

**483-172**
**Grouting and Sanitation** **2.00**
This course will introduce the student to grouting and sanitation operations on a Geo boring site. Grouting materials, mixing methods and pumping applications will be discussed and applied. Site sanitation, record keeping, environmental logging including State and Federal requlatory compliance are topics covered.

**483-173**
**Plastic Fusion Applications** **2.00**
This course will provide the student with the hands-on fusion applications of HDPE piping. The student will learn Butt and Socket fusion techniques according to IGSHPA certification requirements. Upon completion of course student will be able to test for IGSHPA Fusion Certifcation.

**483-174**
**Introduction to Ground Loop Methods** **2.00**
This course introduces the student to GeoExchange technology.Common loop configurations and the various drilling techniques needed to install them will be covered. Types of equipment used to heat/cool residential and commercial buildings will also be discussed. the economics and the future of GeoExchange in a renewable energy economy are addressed.

**483-175**
**GeoExchange Site Safety** **1.00**
This course introduces the student to the hazards associated with the typical active worksite at a GeoExchange installation project. Topics covered include recognizing and preventing motion hazards, fall prevention, lifting safety and open trench/hole precautions. General personal protection of head/limbs and hearing/sight will also be covered.

**483-177**
**Trenching/Header Fundamentals** **2.00**
This course teaches the student the fundamentals of calculating and constructing 2 pipe reverse return reducing headering. Calculating necessary flow rates for proper flushing and purging of loops and header systems are demonstrated. Working in, around and proper construction and back filling of header trenches is also covered. PREREQUISITES: 483-173 - Plastic Fusion Applications, 483-174 - Introduction to Ground Loop Methods, and 483-175 - GeoExchange Site Safety

**483-178**
**Geological Formations for Drillers** **3.00**
This course introduces the student to the complex field of geology as it relates to borehole construction. The types of consolidated and unconsolidated formations, the regional occurrance, the most efficient drilling process for each as well as basic rock identifcation and sample classification for logging purposes are covered. Sources of possible contamination and the protection of subsurface groundwater from the drilling process or surface contaminates are covered.

**483-180**
**Rig Transport, Set-Up and Safety** **2.00**
This course covers the safety and regulatory issues regarding the transportation and commissioning of standard industry drilling/boring rigs for GeoExchange borehole construction. DOT issues concerning weight, trailering, CDL licensure etc. are covered. Site safety to minimize environmental impact of rig, drilled spoils and personnel protection from overhead and underground hazards are also covered.

**483-181**
**Geo Site and Record Management** **2.00**
This course introduces the student to the types of records and data that must be collected, tabulated, maintained and reported to governmental bodies. The proper preparation of driller logs, equipment safety and maintenance logs, driver road logs and collection of loopfield coordinates for warranty submission are covered.

**487-100**
**Introduction Unmanned Aircraft Systems** **2.00**
This class provides students with the educational knowledge for federal, state, and local regulations regarding the operations of Unmanned Aircraft Systems (UAS), This class provides the educational background pertaining towards passing the

FAA Part 17 remote pilot written certification. In addition to the written certification, this class provides students with direct hands on experience with documentation and operational control of drones. This provides the experience operational training needed towards passing Gateway's UAS Flight Certification.

**487-101**
**Drone Operations and Mapping** 2.00

This course prepares students for the remote pilot license exam required by the FAA for any "non-hobby or non-recreational" use of small Unmanned Aircraft Systems, drones. This course also provides hands-on flying experience to develop drone piloting skills, and introduces how to create maps from drone aerial photos. PREREQUISITES: 487-100 - Introduction Unmanned Aircraft Systems

**501-101**
**Medical Terminology** 3.00

This course focuses on the component parts of medical terms: prefixes, suffixes, and word roots. Students practice formation, analysis, and reconstruction of terms, with an emphasis on spelling, definition, and pronunciation. They are introduced to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems, as well as systemic and surgical terminology. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**501-102**
**Intro to Medical Language** 1.00

This course focuses on the component parts of medical terms: prefixes, suffixes, and

word roots. Students practice formation, analysis, and reconstruction of terms, with an emphasis on spelling, definition, and pronunciation.

**501-103**
**Health Occupations, Intro to** 3.00

This course provides an over-view of the health care industry. Students will identify characteristics of various health care services areas. The learner will acquire essential knowledge, skills and attributes necessary to be employed in the health care industry. There is a focus on ethics, confidentiality, legal issues, responsible behaviors and spoken and written communication. The learner will investigate roles and responsibilities of a variety of career options within the health care industry. Students will experience job shadowing in a variety careers in hospitals, clinics and long term care facilities.

**501-107**
**Digital Literacy for Healthcare** 2.00

The focus of this course is the use of technology in healthcare. Learners use common business software applications, including word processing, presentation, spreadsheet, and databases. Communication methods using technology are addressed. Learners gain experience with using the electronic health record (EHR). Healthcare EHR security issues, social media use, and digital healthcare resources are examined.

**502-301**
**Shampoo Treatments** 1.00

Theory and practical training in shampooing, scalp massage, scalp and hair analysis,

and procedures for treating scalp and hair conditions. Students apply knowledge and skills on customers in patron laboratory to complete competencies in subject areas.

**502-308**
**Salon Service 5** 1.00

In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of basic perming and texture skills. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-309**
**Salon Service 6** 1.00

In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of men's haircutting skills. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-310**
**Salon Service 7** 1.00

In this course, students will be required to perform all client service skills in the

student salon, with the concentration and evaluation being on the performance of hair color skills. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-311**
**Salon Service 10** 1.00

In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of interpersonal skills. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-312**
**Barber/Cosmetology/
Introduction to** 1.00

This course provides knowledge in the general subjects pertaining to barber/cosmetology, including: bacteriology, sanitation, anatomy and physiology, Wisconsin laws, basic chemistry, and electricity.

**502-320**
**Basic Manicuring** **1.00**
Students will receive theory and practice training in basic and advanced manicuring, pedicuring, and nail art procedures and techniques.

**502-324**
**Barber/Cosmetology Industry** **2.00**
This course is designed as a complete program of business instruction for the barber/cosmetology student. It supplements the usual technical training required in career development.

**502-325**
**Manicure/Nail Technician Illinois** **1.00**
This course offers the specific content needed by an individual who wishes to become a licensed manicurist/nail technician in Illinois.

**502-330**
**Barber/Cosmetology Additional Hours - 2 Credits** **2.00**
For students who meet Barber/Cosmetology training requirements in other states who wish to complete additional hours for Wisconsin licensure. Students are evaluated per Wisconsin requirements, complete training on patron lab floor and complete a mock state board.

**502-337**
**Manicure/Nail Technician I** **4.00**
Theory and practical training in basic and advanced manicuring, pedicuring and nail art procedures and techniques. Students apply knowledge and skills on clients in a simulated salon environment to complete the competencies in subject area. Students completing both Manicure/ Nail Technician courses are eligible to take a state board examination for a manicurist license.

**502-338**
**Manicure/Nail Technician II** **5.00**
Theory and practical training in basic and advanced artificial nail procedures and techniques. Students apply knowledge and skills on clients in a simulated salon environment to complete competencies in subject area.

**502-341**
**Barber/Cosmetology Additional Hours V** **1.00**
For students who meet Barber/Cosmetology training requirements in other states who wish to complete additional hours for Wisconsin licensure. Students are evaluated per WI requirements, complete training on patron lab floor and complete a mock state board.

**502-345**
**Basic Hair Color** **2.00**
Theory and practical training in haircoloring techniques, procedures, and formulations.

**502-346**
**Basic Manicuring** **2.00**
Theory and practice training in basic and advanced manicuring, pedicuring, and nail art procedures and techniques

**502-347**
**Bleaching** **2.00**
Theory and practical training in bleaching techniques, procedures, and stages of lightening hair. PREREQUISITES: 502-345 - Basic Hair Color

**502-348**
**Chemical Straightening** **2.00**
Theory and practical training in chemical and related hair relaxing techniques and procedures. PREREQUISITES: 502-353 - Perm Techniques

**502-349**
**Facials** **2.00**
Theory and practice training in facial massage, skin care, basic and corrective makeup application, eyebrow arching, waxing, lash and brow tinting, and seasonal color analysis.

**502-350**
**Hair Design 1** **2.00**
Theory and practice training in artistic design, setting, and finishing techniques. Use of blow dryer, curling iron, and rollers.

**502-351**
**Hair Design 2** **2.00**
Theory and practical training in wigs and hair pieces, hair pressing, and long hair designs.

**502-352**
**Men's Haircutting** **2.00**
Theory and practice training in haircutting concept, basic form techniques, and mustache and beard trims. Use of clippers, scissors, and thinning shears is included. PREREQUISITES: 502-366 - Women's Haircutting

**502-353**
**Perm Techniques** **2.00**
Theory and practical training in basic and advanced permanent waving procedures.

**502-354**
**Salon Service 1** **1.00**
In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of facials and skin care. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-347 - Bleaching, 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-355**
**Salon Service 2** **1.00**
In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of basic nail service skills. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-347 - Bleaching, 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 -

Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-356**
**Salon Service 3** 1.00

In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of hairstyling and finishing techniques on long hair. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-357**
**Salon Service 4** 2.00

Haircutting course is designed to assist students in learning how face shapes, body structure, texture or the hair, color and curl configuration play a part in finding the perfect hair cut for each clients individual needs. Identify and perform each of the 4 different haircuts using a shears, razor. Identify safety procedures to protect the client and the student. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-358**
**Salon Service 5** 2.00

This course will provide the students with the knowledge and skills required to perform basic perming services in a licensed salon. Students apply knowledge and skills on customers in a simulated salon environment to complete competencies in perming techniques. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-359**
**Salon Service 6** 2.00

Haircutting course is designed to assist students in learning how face shapes, body structure, texture or the hair. Color and curl configuration play a part in finding the perfect hair cut for each client's individual needs. Identify and perform each of the 4 different haircuts using a shears, razor and clipper. Identify safety procedures to protect the client and the student. Perform beard and mustache trims. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-360**
**Salon Service 7** 2.00

This course explores theory and practice in hair coloring techniques. Students will apply knowledge and skills to create colors using their skills on customers in the client lab. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-361**
**Salon Service 8** 1.00

In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of hairstyling and finishing techniques. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-362**
**Salon Service 9** 1.00

In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of chemical straightening and texture skills. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color,

502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-363**
**Salon Service 10** 2.00

This course explores theory and practice in salon services. Students will apply knowledge and skills to provide all salon services on customers in the patron lab. Students will complete the Wisconsin Mock State Board Written Exam. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-364**
**Salon Service 11** 1.00

In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of bleaching and special effects skills. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-365**
**Salon Service 12**     **1.00**

In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of shampooing skills. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-366**
**Women's Haircutting**     **2.00**

Theory and practice training in hair cutting concepts and basic form techniques. Use of tools such as scissors, razors, and thinning shears.

**502-367**
**Salon Service 4**     **1.00**

In this course, students will be required to perform all client service skills in the student salon, with the concentration and evaluation being on the performance of women's haircutting skills. PREREQUISITES: 502-301 - Shampoo Treatments, 502-345 - Basic Hair Color, 502-320 - Basic Manicuring, 502-34,7 502-348 - Chemical Straightening, 502-349 - Facials, 502-350 - Hair Design 1, 502-351 - Hair Design 2, 502-352 - Men's Haircutting, 502-353 - Perm Techniques, and 502-366 - Women's Haircutting with a minimum grade of C or TR

**502-370**
**Mock Board Skills**     **2.00**

The Mock Board skills course is designed to prepare the student for the practical portion of the Wisconsin Cosmetology State Board exam. Students will practice Practical skills on mannequins to gain accuracy and speed in each service area required to successfully pass the exam. Students will complete a final practical exam for the Cosmetology program.

**502-371**
**Mock Board Theory**     **1.00**

The Mock Board Theory course is designed to prepare the student for the written portion of the Wisconsin Cosmetology state board exam. Students will acquire study skills and practice test taking skills on computers to retain information necessary to successfully pass the exam. Students will complete a final written exam for the Cosmetology program.

**502-504**
**Barb/Cos Apprenticeship Haircutting**     **0.75**

This course is designed to enable the Apprentice students to acquire the theory requirements as mandated by the Wisconsin Statutes and Administrative Codes for the Barbering and Cosmetology Examining Board. Instruction will be mainly theoretical and will follow a lecture/ discussion format. Some demonstrations of practical skills will be included within the lectures. Both individual and group assignments will be required to reinforce interaction.

**502-505**
**Barb/Cos Apprenticeship Hairstyling**     **0.75**

This course will provide the Apprenticeship student with knowledge of Hairstyling set by the guidelines of the Wisconsin Statutes and Administrative Codes for the Barber/Cosmetology Examining Board. The class will be taught by the following methods: lecture, discussion, demonstration, and hands-on performance.

**502-506**
**Barb/Cos Department Rules**     **0.25**

This course is designed to enable students to acquire knowledge of the Wisconsin Rules of the Department of Regulations and Licensing.

**502-507**
**Barb/Cos Administrative Codes**     **0.25**

This course is designed to enable students to acquire knowledge of the Wisconsin Laws and Administrative Code that governs the state Barber and Cosmologist. Instruction will be theoretical and will follow a lecture/ discussion format.

**502-508**
**People Skills**     **0.25**

This course provides the student with the fundamental skills needed to understand and communicate with people. Instruction will be mainly theoretical and will follow a lecture discussion format.

**502-509**
**Shaving/Male Facials**     **0.50**

This course is designed to enable the student to acquire the theory requirements for male facials as mandated by the Wisconsin Statutes and Administrative Codes. Instruction will be mainly theoretical and will follow a lecture/discussion format. Some demonstrations of practical skill will be included in the lectures.

**502-514**
**Barb/Cos Professional Development/ Hygiene**     **0.50**

This course is designed to provide fundamental guidelines for lifelong professional development and lay a foundation for the consultation process between client and stylist. Instruction will be mainly theoretical and will follow a lecture/ discussion format.

**502-515**
**Barb/Cos Salon Ecology**     **0.50**

This course is designed to give the student a foundation for safe infection control practices and procedures that will be used in all aspects of the student's education and future salon pursuits. Instruction will be mainly theoretical and will follow a lecture/ discussion format.

**502-516**
**Barb/Cos Tricology/Related Disorders**     **0.50**

This course provides fundamental knowledge regarding the phases of hair growth, common hair disorders, and causes and treatments of hair loss. Instruction will be mainly theoretical and will follow a lecture/discussion format.

**502-517**
**Barb/Cos Shampoo/Hair Care** 0.50

This course provides the student with fundamental knowledge of hair care and the skills needed during draping, shampooing, and scalp massage procedures.

**502-518**
**Haircutting for Cosmetology Apprentice** 1.00

This course is designed to enable the apprentice student with theory knowledge of haircutting as mandated by the Wisconsin Statutes and Administrative Codes for the Cosmetology Examining Board. Instruction will be mainly theoretical and follow a lecture/discussion format. Some demonstrations of practical skills will be included within lectures. Both individual and group assignments will be required to reinforce instruction.

**502-519**
**Hairstyling for Cosmetology Apprentice** 1.00

This course is designed to enable the apprentice student with theory knowledge of hairstyling as mandated by the Wisconsin Statutes and Administrative Code for the Cosmetology Examining Board. Instruction will be mainly theoretical and follow a lecture/discussion format. Some demonstrations of practical skills will be included within lectures. Both individual and group assignments will be required to reinformce instruction.

**502-522**
**COS Professional Development** 0.50

This course is designed to provide fundamental guidelines for lifelong professional development. Instruction will be mainly theoretical and will follow a lecture/discussion format.

**502-523**
**Salon Ecology for Cosmetology Apprentice** 0.50

This course is designed to give the student a foundation for safe infection control practices and procedures that will be used in all aspects of the students' education and future salon pursuits as mandated by the Department of Safety and Professional Services. Instruction will be mainly theoretical and will follow a lecture/discussion format.

**502-524**
**Trichology for Cosmetology Apprentice** 0.50

This course provides fundamental knowledge regarding the phases of hair growth, common hair disorders, causes and treatments of hair loss as mandated by the Wisocnsin Statutes and Administrative Codes for the Cosmetology Examining Board. Instruction will be mainly theoretical and will follow a lecture/discussion format.

**502-525**
**Shampoo/Haircare for Cosmetology Apprentice** 0.50

This course is designed to enable the apprentice student with theory knowledge of Shampoo/Hair Care, and the skills needed during draping, shampooing, and scalp massage procedures as mandated by the Wisconsin Statues and Administrative Codes for the Cosmetology Examining board. Instruction will be mainly theoretical and follow a lecture/discussion format. Some demonstrations of practical skills will be included within lectures. Both individual and group assignments will be required to reinforce instruction.

**502-540**
**Barber/Cosmetology Chemical Relaxing Apprentice** 0.25

This course will provide the Apprentice Student with knowledge of chemical relaxing theory set by the Barber/Cosmetology Examining Board and the Wisconsin Statutes and Administrative Codes. This class will be taught by the following methods: lecture, discussion, demonstration, and hands-on performance.

**502-541**
**Barber/Cosmetology Permanent Waving Apprentice** 0.75

This course is designed to enable students to acquire knowledge of Permanent Waving. Instruction will be theoretical and will follow a lecture/discussion format, with demonstrations and hands-on performance.

**502-542**
**Barber/Cosmetology Haircoloring/ Bleaching Apprenticeship** 1.00

This course is designed to enable the Apprentice Student to acquire the theory requirements for Haircoloring/Bleaching as mandated by the Wisconsin Statutes and Administrative Codes for the Barber/ Cosmetologist Examining Board. Instruction will be mainly theoretical and will follow a lecture/discussion format. Some demonstrations of Practical Skills will be included within the lectures. Both individual and group assignments will be required.

**502-543**
**Permanent Waving for Cosmetology Apprentice** 0.75

This course is designed to enable the apprentice student with theory knowledge of Permanent Waving as mandated by the Wisconsin Statutes and Administrative Codes for the Cosmetology Examining Board. Instruction will be mainly theoretical and follow a lecture/discsussion format. Some demonstrations of practical skills will be included within lectures. Both individual and group assignments will be required to reinforce instruction.

**502-544**
**Chemical Relaxing for Cosmetology Apprentice** 0.50

This course is designed to enable the apprentice student with theory knowledge of chemical relaxing as mandated by the Wisconsin Statutes and Administrative Codes for the Cosmetology Examining Board. Instruction will be mainly theoretical and follow a lecture/discussion and hands on performance format.

**502-545**
**Haircolor/Hair Lightening for Cos Apprentice** 1.00

This course is designed to enable the apprentice student with theory knowledge of haircoloring/hair lightening as mandated by the Wisconsin Statutes and Administrative Codes for the Cosmetology Examining Board. Some demonstrations of practical skills will be included within lectures. Both individual and group assignments will be required to reinforce instruction.

**502-547**
**Facial/Makeup/Skin Disorders for Cos** **1.00**

This course is designed to enable the apprentice student with theory knowledge of facial, makeup, skin disorders and massage as mandated by the Wisconsin Statutes and Administrative Codes for the Cosmetology Examining Board. Instruction will be mainly theoretical and follow a lecture/discussion format. Some demonstrations of practical skills will be included within lectures. Both individual and group assignments will be required to reinforce instruction.

**502-548**
**Manicure/Pedicurei/Artif Nails for Cos** **1.00**

This course will provide the Apprentice student with knowledge of Manicuring/Pedicuring and artificial nails as mandated by the Wisconsin Statues and Administrative Codes for the Cosmetology Examining Board. The class will be taught by the following methods: lecture, discussion, demonstration and hands on performance.

**502-551**
**Barber/Cosmetologist Facial/Makeup Massage Apprenticeship** **1.00**

This course is designed to enable students to acquire knowledge of giving a facial and massage and applying makeup. Instruction will be theoretical and will follow a lecture/discussion format, with demonstrations and some hands-on performance.

**502-553**
**Barber/Cosmetology Manicure/Pedicure/Artificial Nails Apprenticeship** **1.00**

This course will provide the Apprentice Student with knowledge of manicuring, pedicuring, and artificial nails. The class will be taught by the following methods: lecture, discussion, demonstrations, and hands-on performance.

**502-560**
**Barber/Cosmetology State Board Preparation** **0.25**

This course is designed to prepare the Apprentice Student for taking the State Board Exam. A practical mock exam will be given to acquaint the student with the procedures for testing. There will be a hands-on and a written test.

**502-561**
**Mock State Board Prep** **0.25**

This class is designed to help Barbers and Cosmetologists successfully pack for their state board. It is designed to leave the guessing at the door so you know up front what is needed for each portion of the practical test, and how to label and assemble tools and materials. COREQUISITES: 502-560 - Barber/Cosmetology State Board Preparation

**502-580**
**Tricology for Barbering** **0.50**

This course provides fundamental knowledge regarding the phases of hair growth, common hair disorders and causes and treatments for hair loss. Instruction will be mainly theoretical and will follow a lecture/discussion format.

**502-581**
**Professional Development for Barbering** **0.25**

This course is designed to provide fundamental guidelines for lifelong professional development and personal development. Instruction will be mainly theoretical and will follow a lecture/discussion format.

**502-582**
**Hair Styling for Barbering** **1.00**

This course will provide the Apprenticeship student with knowledge of Hairstyling set by the guideline of the Wisconsin Statutes and Administrative Codes for the Barbering Examining Board. The class will be taught by the following methods: lecture, discussion, demonstration, and hands-on performance.

**502-583**
**Shampoo for Barbering** **0.50**

This course provides the student with fundamental knowledge of hair care and the skills needed during draping, shampooing, and scalp massage procedures.

**502-584**
**Skin Related Disorders for Barbering** **0.25**

This course is designed to enable the Apprentice student to acquire the theory requirements for Skin/Related disorders as mandated by the Wisconsin Statutes and Administrative Codes for the Barbering Examining Board. Instruction will be mainly theoretical and will follow a lecture / discussion format. Both individual and group assignments will be required to reinforce instruction.

**502-585**
**Shaving/Male Facials for Barbering** **0.25**

This course is designed to enable apprentice students to acquire the theory requirements for shaving/male facial as mandated by the Wisconsin Statutes and Administrative Codes for the Barbering Examining board. Instruction will be mainly theoretical and will follow a lecture/discussion format. Some demonstrations of practical skill will be included with in the lectures.

**502-586**
**Hair Cutting for Barbering** **1.25**

This course is designed to enable the Apprentice student to acquire the theory requirements as mandated by the Wisconsin Statutes and Administrative Codes for the Barbering Examining Board. Instructional will be mainly theoretical and will follow a lecture/discussion format. Some demonstrations of practical skills will be included within the lectures. Both individual and group assignments will be required to reinforce interaction.

**502-587**
**Barbering Codes** **0.25**

This course is designed to enable students to acquire knowledge of the Wisconsin laws and Administrative Code that governs the state Barbers. Instruction will be theoretical and will follow a lecture/discussion format.

**502-588**
**Barbering Laws** **0.25**

This course is designed to enable students to acquire knowledge of the Wisconsin Rules of the Department of Regulations and Licensing.

**502-589**
**Salon Ecology for Barbering** 0.50

This course is designed to give the student a foundation for safe and infection control practices and procedures that will be used in all aspects of the student's education and future salon pursuits. Instruction will be mainly theoretical and will follow a lecture/discussion format.

**502-590**
**Chemical Relaxing for Barbering** 0.25

This course will provide the Apprentice student with knowledge of chemical relaxing theory set by barber examining Board and the Wisconsin Statures and Administrative Codes. This class will be taught by the following methods: lecture, discussion, demonstration, and hands-on performance.

**502-592**
**Perming for Barbering** 1.00

This course is designed to enable students to acquire knowledge of Permanent Waving. Instruction will be theoretical and will follow a lecture/discussion format, with demonstrations and hands-on performance.

**502-593**
**Hair Color for Barbering** 1.00

This course is designed to enable the Apprentice Student to acquire the theory requirements for Hair Coloring as mandated by the Wisconsin Statutes and Administrative Codes for the Barbering Examining Board. Instruction will be mainly theoretical and will follow a lecture. Discussion format. Some demonstrations of Practical skills will be included with the lectures. Both individual and group assignments will be required.

**502-594**
**Bleaching for Barbering** 0.25

This course is designed to enable the Apprentice Student to acquire the theory requirements for Bleaching as mandated by the Wisconsin Statutes and Administrative Codes for the Barbering Examining Board. Instruction will be mainly theoretical and will follow a lecture. Discussion format. Some demonstrations of Practical skills will be included with the lectures. Both individual and group assignments will be required.

**502-595**
**People Skills for Barbering** 0.50

This course provides the students with fundamental skills needed to understand and communicate with people. Instruction will be mainly theoretical and will follow a lecture/discussion format.

**502-730**
**Client Services 1** 2.00

This course introduces client services performed by the barber. Emphasis is on hair and scalp analysis, shampooing, haircutting techniques, shaving, and chemical services. Students will apply knowledge and skills to provide all barber services on customers in the client lab. Skill development, increased speeds, and greater accuracy will be assessed in these lab courses. PREREQUISITES: 502-738 - Basic Haircutting, 502-735 - Advanced Haircutting, 502-741 - Hairstyling, 502-740 - Hair Color, 502-743 - Shaving, 502-739 - Chemical Texturing, 502-736 - Barber Industry, and 502-742 - Barbering, Intro to

**502-731**
**Client Services 2** 2.00

In this course students explore client services performed by the barber. Emphasis is on hair and scalp analysis, shampooing, haircutting techniques, shaving, facial services, and chemical services. Students will apply knowledge and skills to provide all barber services on customers in the client lab. Skill development, increased speeds, and greater accuracy will be assessed in these lab courses. PREREQUISITES: 502-738 - Basic Haircutting, 502-735 - Advanced Haircutting, 502-741 - Hairstyling, 502-740 - Hair Color, 502-743 - Shaving, 502-739 - Chemical Texturing, 502-736 - Barber Industry, and 502-742 - Barbering, Intro to

**502-732**
**Client Services 3** 2.00

In this course students practice building speed and accuracy in client services performed by the barber. Emphasis is on haircutting techniques, shaving, facial services, and chemical services. Students will apply knowledge and skills to provide all barber services on customers in the client lab. Skill development, increased speeds, and greater accuracy will be assessed in these lab courses. PREREQUISITES: 502-738 - Basic Haircutting, 502-735 - Advanced Haircutting, 502-741 - Hairstyling, 502-740 - Hair Color, 502-743 - Shaving, 502-739 - Chemical Texturing, 502-736 - Barber Industry, and 502-742 - Barbering, Intro to

**502-733**
**Client Services 4** 2.00

In this course students enhance speed and accuracy in client services performed by the barber. Emphasis is on haircutting techniques, shaving, facial services, and

chemical services. Students will apply knowledge and skills to provide all barber services on customers in the client lab and begin preparation for Wisconsin State Barber licensing exam. PREREQUISITES: 502-738 - Basic Haircutting, 502-735 - Advanced Haircutting, 502-741 - Hairstyling, 502-740 - Hair Color, 502-743 - Shaving, 502-739 - Chemical Texturing, 502-736 - Barber Industry, and 502-742 - Barbering, Intro to

**502-734**
**Client Services 5** 2.00

This course provides students with opportunities to acquire barbering skills in preparation for entry-level, licensed employment. Emphasis is on providing services with speed and accuracy including: hair and scalp analysis, shampooing, haircutting, shaving, facial services, and chemical services. Students will apply knowledge and skills to provide all barber services on customers in the client lab and complete preparation for Wisconsin State Barber licensing exam. PREREQUISITES: 502-738 - Basic Haircutting, 502-735 - Advanced Haircutting, 502-741 - Hairstyling, 502-740 - Hair Color, 502-743 - Shaving, 502-739 - Chemical Texturing, 502-736 - Barber Industry, and 502-742 - Barbering, Intro to

**502-735**
**Advanced Haircutting** 2.00

This course is designed to provide skills relating to men's haircutting. Course competencies include demonstrating draping; Afro haircuts; flat top and crew cut haircuts; fade haircuts; and head shaving. Learners perform four basic haircutting techniques using shears, razor and

clippers. Learner will perform a variety of shorthair combination cuts using finger-and-shear, comb-over-shear, shear-over-comb and freehand techniques. Additional techniques include long-layered haircut techniques; uniform layer haircut techniques; combination cut techniques; short taper cut using finger and shear techniques; short taper cut using shear-over-comb techniques; taper cut using clipper-over-comb techniques; and haircutting for tightly curled hair. PREREQUISITES: 502-738 - Basic Haircutting

**502-736**
**Barber Industry**      **2.00**

This course guides the barber on a career path that includes skills related to career strategies and the job search, the basics of managing a successful establishment, developing a marketing plan, and the responsibilities of adhering to the Wisconsin Statutes and Administrative Code. This course also provides an overview of the profession of barbering, professional image, safety and decontamination in the barbershop. Course competencies include examining the importance of barbering organizations and the Department of Safety and Professional Services; comparing professional ethics and personal ethics; developing short term and long term goals; reviewing basic first aid, safety and decontamination principles for infection control; introducing current state statutes and rules as they apply to barber safety and sanitation; and learning decontamination procedures for tools, equipment and surfaces.

**502-738**
**Basic Haircutting**      **2.00**

This course will provide students with knowledge of the art and science of haircutting. Students will identify principal tools and implements, apply haircutting terminology, recognize facial shapes and anatomical features, and learn techniques to create a variety of haircutting designs. Students will apply safety and sanitation procedures adhering to the Wisconsin Statutes and Administrative codes. This course also introduces a combination of haircutting techniques and tools. Learners perform four basic haircutting techniques using shears, razor and clippers. Learner will perform a variety of shorthair combination cuts using finger-and-shear, comb-over-shear, shear-over-comb and freehand techniques.

**502-739**
**Chemical Texturing**      **2.00**

This course will provide students to acquire knowledge of permanent waving. Course competencies include performing hair and scalp analysis; follow safety and sanitation procedures; explaining the physical and chemical actions that take place during chemical texture services; perform the basic perm wrap, curvature wrap, spiral wrap, bricklay wrap, and double-tool/piggy back wrap; hair relaxing applications and procedures, and reformation curl/chemical blow-out services. This class includes the following instructional methods: lecture, discussion, demonstration, and hands-on performance.

**502-740**
**Hair Color**      **2.00**

Students study the color wheel and the theory behind the "Law of Color." Students mix and apply temporary, semi-permanent, demi-permanent and permanent colors; Students identify the chemicals used in hair coloring services. Students practice client consultations, analysis and follow safety and sanitation procedures. Students learn procedures related to lightening techniques. They identify the products used to create and maintain these types of services. Students learn the chemistry to lightening products. They learn cap, foiling and corrective color procedures.

**502-741**
**Hairstyling**      **2.00**

This course emphasizes wet and dry hairstyling and includes hair analysis, shampooing, conditioning, reconditioning, scalp and hair treatments, and blow drying. Course competencies include analyzing the condition of a client's hair; personalizing scalp and hair treatments based on client needs; completing shampoo services; completing hair conditioning treatments; create blow-dry styles; and braid hair according to client needs. This course also emphasizes fingerwaves, pincurls, roller setting, thermal styling, and hair replacement techniques. Content also includes applying basic techniques and terminology used in hairstyling; creating fingerwaves; arranging hair using pincurls; performing roller sets; demonstrating thermal styling; and demonstrating hair replacement techniques.

**502-742**
**Barbering, Intro to**      **1.00**

Students will study microbiology, electricity, anatomy, physiology and chemistry, along with properties and disorders of the skin and scalp as these apply to barbering. Course competencies include reviewing the human systems important to barbering, diseases, and conditions; learning about bacteria; categorizing chemicals and their use in the barbering establishment; verifying diseases and disorders of the hair and scalp; and examining common electrical devices used in barbering establishments. This course also introduces current state statutes and rules as they apply to barber safety and sanitation; and learning decontamination procedures for tools, equipment and surfaces.

**502-743**
**Shaving**      **2.00**

Students will apply safety and sanitation, facial physiology, and techniques to create a variety of facial hair designs and complete facial hair removal. Course competencies include proper infection control procedures and client safety; draping clients for facial hair services; using facial hair service tools; analyzing skin types and conditions; adapting facial hair designs for individual facial features and physiology; completing facial hair designs; and completing facial hair removal. In this course the student will analyze the skin for diseases and disorders. The learner will identify facial muscles and nerves and explain the benefits of facial massage and treatments. Students will demonstrate a male facial using a variety of products and equipment based on skin analysis and complete male facials correctly.

**503-101**
**Firefighting Concepts I, Advanced    4.00**

This course introduces students to advanced firefighting principles covering fire behavior, risk management, teamwork, leadership, and a systems approach to initial firefighting tactics at fires. All of the practical portions of this course are conducted in a performance-based, training in context manner to assure that students develop and master a principled, response methodology for all four positions on an engine company. Building construction, forcible entry, and basic driver operator skills are also covered in this course. "Nothing showing" investigations, outside fire attack and transitional positive pressure attack tactics are covered along with problem-solving for each tactic.

**503-102**
**Firefighting Concepts II, Advanced    4.00**

This course introduces students to advanced firefighting principles. All of the practical portions of this course are conducted in a performance-based, training in context manner to assure that students develop and master a principled, response methodology for all four positions on an engine company. Building construction, forcible entry, and basic driver operator skills are also covered in this course. Transitional positive pressure attack above/below, vertical ventilation and 3 person staffed apparatus crew tactics are covered along with problem-solving for each tactic. PREREQUISITES: 503-101 - Firefighting Concepts I, Advanced with a minimum grade of C or TR

**503-103**
**Fire Medic Health and Wellness I    1.00**

This course introduces students to fire service health and wellness issues, firefighter injury and death statistics along with risk managment strategies. Students begin their study and application of life-long nutrition and fitness habits. Students begin preparations for the candidate Physical Ability Test (CPAT).

**503-104**
**Fire Medic Health and Wellness II    1.00**

Students continue to study fire service health and wellness issues and risk management strategies. Students build on their life-long nutrition and fitness habits. Students continue preparations for the Candidate Physical Ability Test (CPAT). PREREQUISITES: 503-103 - Fire Medic Health and Wellness I with a minimum grade of C or TR

**503-106**
**Firefighting Principles II    3.00**

This course is structured for competency-based instruction meeting the requirements of Firefighter Level II. It includes classroom and practical training sessions and meets the objectives of the Wisconsin's Firefighter II certification course. Hazardous Materials Operations is included in this course. Upon completion, students are encouraged to take the certification exam for Firefighter II, State of Wisconsin. PREREQUISITES: 503-142 - Firefighting Principles I

**503-110**
**Fire Safety Communications    3.00**

Students practice communication techniques needed to present fire safety messages to groups with special needs. How to identify and address unique concerns of communities and groups are outlined and practiced by the class as part of assignments and exercises.

**503-117**
**Health and Wellness for Firefighters  3.00**

Students gain an overview of the physical, emotional, intellectual, and social dimensions of health and sustained wellness. They apply physical training techniques developed for the specific occupational demands of the Fire Service. Students will prepare for the Fire Service Candidate Physical Ability Test (CPAT), which is designed to help fire departments measure the physical ability of candidates to perform routine fire fighting tasks.

**503-120**
**Fire Science Student Internship    2.00**

This course allows students to actively participate as a "working" member of a fire department. Students work the 24-hour shift schedule at a local fire department (excluding class times) and perform the same duties as the firefighters. Evaluation is determined by fire department officials and the course instructor. Instructor approval required to establish class schedule. PREREQUISITES: 503-142 - Firefighting Principles I

**503-127**
**Fire Service Changing Technologies    2.00**

This course concentrates on the identification and application of the ever-changing advancement in technology and its impact on the fire service. Students will investigate and use applications and equipment that are reflective of the most recent advancements in fire service technology including; computerized hardware, software, digital media and fire department equipment.

**503-128**
**Fire Department Management    3.00**

Principles of management applied to the fire department. Records, reports and personnel management. Various theories of motivation and types of management are explored. PREREQUISITES: 503-139 - Principles of Emergency Services and 503-142 - Firefighting Principles I

**503-130**
**Firefighter Health and Wellness    2.00**

In this course, students examine fire service health and wellness issues. Through an examination of how, when, where, and why firefighters are injured and killed, students identify risk management strategies. Students develop a plan for personal health and fitness and prepare for the Candidate Physical Ability Test (CPAT). Upon completion of the course, students will be able to identify specific processes, methods, and systems that reduce firefighter injuries and deaths, and they will be able to relate specific behaviors that support personal health and wellness.

**503-139**
**Principles of Emergency Services    3.00**

This course provides an overview of: fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/service; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; and fire service nomenclature. This course is equivalent to 503-139 at other WTCS schools.

**503-142**
**Firefighting Principles I** 4.00

This course includes classroom and practical training sessions on the basic fundamentals needed by entry-level firefighters and meets the objectives of the Wisconsin's Firefighter I certification course. Practical training is a major part of the course. Upon completion, students are encouraged to take the certification exam for Firefighter I, State of Wisconsin. This course is equivalent to 503-142 at other WTCS schools.

**503-143**
**Building Construction** 3.00

A survey of building classifications and types discussing structural elements and weaknesses of each type. Emphasizing the additional damage done by fire and how fire hastens ultimate building collapse. This course is equivalent to 503-143 at other WTCS schools.

**503-147**
**Fire Protection Systems** 4.00

This course provides information relating to the features of design and operation of fire detection and suppression systems.

**503-151**
**Fire Prevention** 4.00

This course provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, and identification and correction of fire hazards. It meets all requirements for Fire Inspector I certification with the state of Wisconsin.

**503-152**
**Hazardous Materials** 4.00

This course examines characteristics relating to hazardous materials, including problems of recognition and mitigation. It prepares students to the Hazardous Material Operations and Technician levels. PREREQUISITES: 503-142 - Firefighting Principles I

**503-155**
**Fire Protection Hydraulics** 4.00

This course provides a foundation of knowledge in order to understand the principles of the use of water in fire protection. It meets all of the requirements for Driver Operator-Pumper certification with the state of Wisconsin. PREREQUISITES: 503-142 - Firefighting Principles I

**503-156**
**Strategies, Tactics and Incident Mgmt** 4.00

This course provides an in-depth analysis of the principles of emergency response through utilization of an incident management system and prepares students to pursue current national ICS training requirements. PREREQUISITES: 503-139 - Principles of Emergency Services, 503-142 - Firefighting Principles I, and 503-143 - Building Construction

**503-157**
**Fire Investigation** 3.00

This course provides learners with the fundamentals and technical knowledge needed for proper fire scene investigations. PREREQUISITES: 503-142 - Firefighting Principles I and 503-143 - Building Construction

**503-192**
**Principles of Em Serv Safety and Survival** 3.00

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

**504-116**
**Civil Law** 3.00

This course covers the fundamentals of substantive and procedural civil law. Topics include the civil law court system, injury law, civil rights liability, property ownership, contracts and consumer protection, administrative agencies, family law, mental health commitments, public labor law, landlord/tenant, and general employment law. PREREQUISITES: 504-121 or 504-900 - Criminal Justice, Intro to

**504-117**
**Police Administration** 3.00

Provides an understanding of contemporary police principles and a detailed study of accepted administrative methods. Management problems acquaint the student with the why of methodology issues.

**504-124**
**Forensics Science** 3.00

This course exposes students to the forensic methods commonly employed in the examination of physical evidence by a forensic scientist used for identification or comparison in civil or criminal crime scene investigation and legal proceedings. The

various techniques and procedures used in forensic science investigation and the admissibility standards established by state and federal courts are examined. This survey course is not designed to train individuals in the highly technical field of forensic science research, which requires extensive education in biology, chemistry, and physics. The course serves to familiarize those individuals majoring in criminal justice or related fields with the methods and techniques currently employed by forensic scientists so that students have a working knowledge and understanding of the technical world of forensic science. PREREQUISITES: 504-900 - Criminal Justice, Intro to with a minimum grade of C or TR

**504-126**
**Firearms Training/Defense Tactics** 2.00

Teaches the fundamentals of firearms usage by police officers. Skills in safety, combat and defensive use of firearms are developed. Legal responsibilities and liabilities of a police officer with respect to firearms are addressed.

**504-141**
**Interviews/ Interrogations/ Confessions** 3.00

Topics include purposes and objectives of a proper interview, mechanics of interviews, interrogations and confessions; importance of the fundamentals of report writing, methods and procedures for interviews and the securing of confessions in accordance with the rights of a citizen under the U.S. Constitution.

**504-148**
**Rules of Evidence** 3.00

Emphasizes rules of admissibility of evidence in court trials involving various kinds and degrees of evidence to assist the police officer in proper performance of investigative duties. PREREQUISITES: 801-136 - English Composition 1

**504-149**
**Criminal Law 1** 3.00

Presents a detailed insight into the origins, nature and concept of various crimes. Philosophy of criminal law, historical sources and the common law, and present day practices employed by judicial processes in the United States -- with particular emphasis on the Wisconsin criminal code -- are addressed.

**504-152**
**Police Science Internship** 3.00

The student will work in the environment of a police department or related agency. The student will experience the profession first-hand.

**504-167**
**Phys Fitness for Law Enforcement** 3.00

This course is designed to introduce students to physical conditioning, aerobic capacity and wellness training as it relates to local and nationwide Law Enforcement entrance examinations. This course will further assist students to understand the need for a Law Enforcement Officer to maintain their physical conditioning, and how an officer needs to perform the basic physical skills and tasks required in the field.

**504-173**
**Cyber Crime** 3.00

Study various criminal investigation techniques related to computer and internet related crime (theft, sex crimes, white collar crime and others). Focus on data recovery and digital forensic techniques utilized by modern law enforcement agencies. Demonstrate courtroom testimony skills related to cyber crimes, and participate in evidence recovery.

**504-174**
**Security, Intro to** 3.00

Discuss historical, philosophical, legal and future trends of security. Define roles of the security professional in modern society. Study public/private security operations, and management concepts focusing on career preparation and opportunities in the field. Examine security challenges of internal theft, embezzlement, drugs and violence in the workplace.

**504-175**
**Terrorism/Homeland Security** 3.00

Examine the history and current trends of terrorism. Discuss governmental responses and the global effect of international terrorism. Define domestic terrorism, active insurgency, and discuss the phenomenon of politically inspired violence. Evaluate statistical and analytical data of individual and state level of terrorism. Study governmental agencies assigned to the Department of Homeland Security.

**504-176**
**Spanish for Law Enforcement** 3.00

Spanish for Law Enforcement is designed to enable Students who know little or no Spanish to communicate effectively with the Spanish speaking individuals. This course has been tailored for Law Enforcement students and professionals, and will teach students basic conversational Spanish to apply in the field. This course covers basic Field Interviews, Traffic Investigations, Medical Emergencies, Identification of subjects and preliminary investigations.

**504-300**
**Policing in America** 1.00

Students will learn the rules of the academy, how the various elements of the criminal justice system relate, the role of law enforcement officers in a democracy, explore belief systems, social pressures, moral problems, decision-making and the consequences of decisions, resources available in their communities to assist law enforcement in their contacts with the community, explore issues involved in policing in a diverse society, identify strategies for working effectively with the community, the requirements under Wisconsin law for law enforcement agency policies and procedures, and why written policies and procedures are important to them in performing their job tasks properly.

**504-301**
**Relational Skills** 3.00

Students will learn how to write a wide variety of law enforcement reports, the role of communication in law enforcement, to apply professional communication skills appropriately, proper law enforcement response to persons with possible mental disorders, alcohol or drug problems, dementia disorders, and/or developmental disabilities, the Wisconsin law for conducting emergency detentions and placements, legal requirements and guidelines for

implementing these procedures, basics of effective court testimony, the role of problem solving, and evolving police strategies for effective law enforcement and community relationships, and the use of problem-oriented policing.

**504-302**
**Patrol Procedures** 4.00

Students will become familiar with Wisconsin traffic laws, including how to properly complete Wisconsin Uniform Traffic Citations and how to direct and control traffic effectively. They will learn to manage a complex scene, to investigate traffic accidents, take appropriate enforcement actions, the legal context for law enforcement driving, including basic patrol operation, emergency vehicle response, pursuit driving, the legal bases for making vehicle contacts, how to conduct a threat assessment to help determine the appropriate type of contact, how to conduct different types of vehicle contacts, recognize and interpret evidence of a and to OMVWI violation, and how to administer and interpret standardized field sobriety tests.

**504-303**
**Investigations** 2.00

Students will learn techniques and procedures necessary to interview or interrogate a variety of individuals, how to recognize, process, and preserve physical evidence; law enforcement's response to a victim of crime including the dynamics of victimization, victims' rights, and enforcement's professional responsibilities to victims. Students will also learn the statutory elements of "sensitive crimes" and the characteristics, effects, and investigative strategies unique to them.

**504-304**
**The Legal Context** 2.00

Students will learn the legal bases for law enforcement action such as arrest, use of force, and search and seizure, as well as the limits on law enforcement activity, the classifications of crimes and other violations into felonies, misdemeanors, and ordinance violations, and the elements of crimes listed in the criminal code, and the laws and procedures that effect juveniles, including those related to taking a juvenile into custody.

**504-305**
**Tactical Skills** 3.00

Students will learn the basis for and limits to use of force by Wisconsin Officers,specific techniques for intervention included in the Wisconsin System of Defense and Arrest Tactics, and to care for and maintain their primary duty handguns. They will learn to shoot quickly and accurately, including under low-light conditions, while moving and from behind cover, and necessary weapon-handling skills, the basics of room clearing, tactical movement, use of cover and concealment, and their application to emergency situations.

**504-306**
**Overview of Criminal Justice** 1.00

Through classroom lecture and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following WI Department of Justice 720 Academy Phase I curriculum framework topics; Academy Orientation, Fundamentals of Criminal Justice, Ethics, Cultural Competency, Agency Policy and Professional Communication.

**504-307**
**Overview of Investigation** 2.00

Through classroom lecture, on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase I topics: Constitutional Law I, Crimes I, Interviews, and Report Writing.

**504-308**
**Overview of Patrol Response** 2.00

Through classroom lecture, and on-campus lab, and WI Department of Justice integration exercises students will learn and apply skills addressed in the following WI Department of Justice 720 Academy curriculum framework Phase I topics: Critical Thinking and Decision Making, Basic Response (RESPOND), Radio Procedures, Introduction to TraCS, Traffic Law Enforcement, and First Aid/CPR/AED. This course will include the WI DOJ 720 Academy Integration Exercises.

**504-309**
**Overview of Tactics** 1.00

Through classroom lecture, and on-campus lab and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase I topics; Fundamentals of Firearms, Vehicle Contacts I, Officer Wellness, and DAAT. The DOJ Phase I Written Examination will be administered in this course.

**504-310**
**Princ. of Emergency Vehicle Response** 2.00

Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Department of Justice 720 Academy Phase II topics: Emergency Vehicle Operation and Control (EVOC) and Vehicle Contacts II.

**504-311**
**Principles of Investigations** 2.00

Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following phase II topics of the WI Department of Justice 720 Academy curriculum Framework; Constitutional Law II, Crimes II, Domestics, and Report Writing.

**504-312**
**Principles of Patrol Response** 2.00

Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the followng WI Department of Justice 720 Academy curriculum framework Phase II topics: Professional Communication Skills II, Incident Command Systems and NIMS, Hazardous Materials and WMD, Tactical Response, Crisis Management, and Tactical Emergency Casualty Care.

**504-313**
**Principles of Tactics** 3.00

Through classroom lecture and on-campus lab students will learn and apply skills addressed in the following Phase II topics from the Department of Justice 720 Academy curriculum frameworks; DAAT and Firearms II. The Phase II Written Exmination will be administered during this course

**504-314**
**Application of Investigations** 2.00

Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Phase II topics of the Department of Justice 720 Academy curriculum framework; Ethics II; Moral Reasoning and Professional Responsibility; Cultural Competence II; Fair and Impartial Policing; Victims, Sexual Assault; Child Maltreatment; Interrogations; Testifying in Court and Crimes III.

**504-315**
**Application of Traffic Response** 2.00

Through classroom lecture, and on campus lab, students will learn and apply skills addressed in the following Phase III topics from the WI Department of Justice 720 Academy curriculum Framework: Traffic Law Enforcement - Core and Radar, Traffic Crash Investigations and Incident Management, Operating a Motor Vehicle While Intoxicated (OMVWI), Standardized Field Sobriety Tests (SFST), and Report Writing. A Phase II Written Examination will also be administered in this course.

**504-316**
**Health and Fitness** 1.00

Through classroom lecture and on-campus lab students will apply Phases I-III Health Fitness WI Department of Justice 720 Academy curriculum framework program requirements.

**504-317**
**L.E. Academy Scenario Week** 1.00

This course will consist of one week of practical scenarios demonstrating the student's proper use of force and proper use scenarios will be those authorized by Dept. of Justice for use in police recruit training

**504-318**
**Principles of Tactics** 5.00

Through classroom lecture and on-campus lab and integration exercises, students will learn and apply skills addressed in the following Phase II topics from the Department of Justice 720 Academy curriculum frameworks including: Professional Communication Skills II, DAAT, Firearms II, Tactical Response, and a Tactical Emergency Casualty Care.

**504-319**
**Principles of Investigations** 1.00

Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Phase II topics of the WI Department of Justice 720 Academy curriculum framework: Constitutional Law II, Physical Evidence Collections, and Crisis Management. The Phase II Written Exam will be given in this course

**504-320**
**Application of Investigations** 1.00

Through classroom lecture, on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Phase III topics of the Department of Justice 720 Academy curriculum framework: Ethics II: Moral Reasoning and Professional Responsibility, Cultural Competence II: Fair and Impartial Policing, Interrogations, Testifying in Court, Crimes III and Physical Evidence.

**504-321**
**Application of Traffic Response** 3.00

Through classroom lecture, and on-campus lab and WI Department of Justice integration exercises, students will learn and apply skills addressed in the following Phase III topics from the WI Department of Justice 720 Academy curriculum framework: Traffic Law Enforcement - Core and Radar, Traffic Crash Investigations and Incident Management, Operating a Motor Vehicle While Intoxicated (OMVWI), Standardized Field Sobriety Tests (SFST), Hazardous Materials and Weapons of Mass Destruction (WMD), Incident Command Systems and NIMS, and Report Writing.

**504-322**
**Sensitive Crimes** 2.00

Through classroom lecture, and on-campus lab and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase III topics: Domestics, Juvenile Law, Victims, Sexual Assault, and Child Maltreatment. The DOJ Phase III Written Examination will be administered in this course.

**504-323**
**Physical Fitness** 1.00

Through classroom lecture and on-campus lab students will apply Phases I-III Health Fitness WI Department of Justice 720 Academy curriculum framework program requirements and Officer Wellness Suicide Prevention.

**504-900**
**Criminal Justice, Intro to** 3.00

In this course learners will distinguish between the roles and functions of courts with jurisdiction in Wisconsin; differentiate between the roles and functions of federal, state and local law enforcement agencies; apply professional principles as a law enforcement officer; determine modern police functions and policies from an historical perspective; identify the role of law enforcement officers in American society; utilize a decision-making model; identify the characteristics of a good decision maker; describe how professionalism, ethics, and moral standards relate to a law enforcement career; practice a code of behavior; incorporate ethical decision-making strategies; identify required law enforcement policies; defend the importance of written agency policies; and distinguish between "ministerial" and "discretionary" duties; describe how decisions are made; enhance an officer's critical thinking and police problem solving abilities; and apply principles of critical thinking, decision-making, and problem solving.

**504-901**
**Constitutional Law** 3.00

In this course, learners will diagram the structure of the criminal justice system, identify situations where constitutional rules are applicable, identify situations where an officer may use reasonable suspicion to contact a subject, identify the elements of a lawful arrest, identify search-related activities where the 4th amendment is not applicable, identify the requirements that pertain to search warrants, analyze situations where an officer may conduct a search without a warrant, compare the requirements for conducting routine searches with those for searching disabled persons and strip searches, identify the requirements of the laws governing confessions and statements, and analyze the various requirements that evidence must meet before it can be admitted in court. PREREQUISITES: 504-902- Criminal Law COREQUISITES: 504-148 - Rules of Evidence

**504-902**
**Criminal Law** 3.00

In this course, learners will identify basic concepts of criminal law; analyze facts, circumstances, and situations and determine which crimes against persons have been committed; analyze facts, circumstances, and situations and determine which crimes against property have been committed; and analyze facts, circumstances, and situations and determine which crimes involving drugs, alcohol or other criminal activity have been committed.

**504-903**
**Professional Communications** 3.00

In this course, the learner will apply knowledge of the communication process, apply communication techniques, integrate verbal and physical intervention skills, develop strategies to obtain information in a variety of situations, differentiate between interview and interrogation, and analyze information for consideration of corroborative evidence.

**504-904**
**Juvenile Law** 3.00

In this course, the learner will describe the juvenile justice system, describe the handling of cases of children in need of protection or services, describe the handling of cases of juveniles in need of protection or services or alleged to be delinquent, identify constitutional law issues that are relevant to juveniles, analyze the role of law enforcement in responding to child maltreatment, explain the issues involved in investigating incidents of child victimization, intervene and apply appropriate investigative strategies, describe the roles of other agencies in child maltreatment cases, and recognize the unique investigative issues for missing children.

**504-905**
**Report Writing** 3.00

In this course, the learner will explain the context of report writing, take effective field notes, organize information in reports, write narratives, describe what information should be included in certain types of reports, complete various uniform citations and the paperwork accompanying arrests and other detentions, prepare for court, describe how to be an effective witness, and testify as a witness in court.

**504-906**
**Criminal Investigation Theory** 3.00

In this course, the learner will describe the role evidence plays in criminal investigations and prosecutions; apply the steps for processing crime scenes; apply appropriate strategies to locate, handle, and package evidentiary items; document the crime scene; recognize the unique investigative issues for crimes against life; apply appropriate strategies to secure the scene, collect and preserve evidence, and investigate a death; recognize the dynamics of victimization; apply knowledge of the definitions and responsibilities for law enforcement; apply appropriate interview techniques with adult or child victims; analyze the role of law enforcement in responding to domestic abuse; intervene and apply appropriate investigative strategies; respond to an officer-involved domestic violence incident; analyze the role of law enforcement in responding to sexual abuse; demonstrate investigative techniques in a simulated sexual assault case; and identify other resources that can assist in sexual assault cases. PREREQUISITES: 504-908 - Traffic Theory COREQUISITES: 504-148 - Rules of Evidence

**504-907**
**Community Policing Strategies** 3.00

In this course, the learner will identify community resources available in your area, describe the role of an advocacy group in the criminal justice community, demonstrate cultural self-awareness, interpret state and federal laws related to discrimination and diversity, utilize appropriate skills for interacting effectively and professionally with persons from culturally diverse backgrounds and lifestyles, identify and implement personal strategies that take into account cultural differences, identify the types of situations and the characteristics of individuals that are likely to be encountered in crisis management situations, apply Wisconsin statutory requirements and general guidelines regarding emergency detentions and emergency protective placements of persons, identify key concepts and elements associated with law enforcement response to people in crisis, apply crisis intervention principles and techniques, articulate the decision-making process taken to manage persons in crisis, incorporate community policing strategies into the community, illustrate problem-oriented policing strategies, evaluate other policing strategies, and apply principles of crime analysis and prevention.

**504-908**
**Traffic Theory** 3.00

In this course, the learner will enforce Wisconsin traffic laws, detect traffic violations, issue traffic citations, direct traffic, identify responsibilities of a first responding officer, manage the response to a scene, take necessary steps to enable effective follow-up as needed, conduct an initial investigation at a crash scene, identify the mechanics of measuring and documenting traffic crash scenes, complete the Wisconsin Motor Vehicle Accident Report, record the crash scene using photography, take appropriate enforcement action based on information gathered, and recognize and interpret indicators of impaired driving. COREQUISITES: 804-135 - Quantitative Reasoning

**508-101**
**Dental Health Safety** 1.00

This course prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. Students will be required to show proof of certification before beginning this course.

**508-103**
**Dental Radiography** 2.00

This course prepares Dental Assistant students to operate x-ray units and expose bitewing, periapical, extra oral, and occusal radiographs. Emphasis is placed on protection against x-ray hazards. Students also process, mount, and evaluate radiographs for diagnostic value. In this course, students demonstrate competency on a manikin. In addition, students expose bitewing radiographs on a peer, role-play patient.

**508-113**
**Dental Materials** 2.00

This course prepares Dental Assistant students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products, and impression materials. They also learn to take alginate impressions on manikins and clean removable appliances.

**508-120**
**Dental Office Management** 2.00

This course prepares Dental Assistant students to manage telephones, appointments, recall systems, and inventory. Students also develop the skills needed to process accounts receivable and payable, collections, and third party reimbursements. PREREQUISITES: 508-307 - Dental Assistant Professionalism

**508-302**
**Dental Chairside** 5.00

This course prepares dental assistant students to chart oral cavity structures, dental pathology, and restorations to

and to assist a dentist with basic dental procedures including examinations, pain control, amalgam restoration, and cosmetic restoration. Students will also develop the ability to educate patients about preventative dentistry, brushing and flossing techniques, and dental procedures, using lay terminology. Throughout the course, students will apply decoding strategies to the correct use and interpretation of dental terminology. This course is equivalent to 508-302 at other WTCS schools. COREQUISITES: 508-101 - Dental Health Safety, 508-113 - Dental Materials, and 508-304 - Dental and General Anatomy

**508-304**
**Dental and General Anatomy        2.00**

This course prepares dental assistant students to apply fundamentals of general and dental anatomy to informed decision making and to professional communication with colleagues and patients. This course is equivalent to 508-304 at other WTCS schools.

**508-306**
**Dental Assistant Clinicals        3.00**

Students apply skills learned in Dental and General Anatomy, Dental Health Safety, Dental Chairside, Dental Materials, Dental Radiography, and Professionalism in a clinical setting with patients. This course emphasizes integration of core abilities and basic occupational skills.

**508-307**
**Dental Assistant Professionalism   1.00**

This course prepares Dental Assistant students for professional success in a

dental practice or other dental health care environment. Students develop professional appearance and image. More importantly, they learn to work within ethical guidelines and legal frameworks. In preparation for entering the workforce, students customize or develop their portfolios and lay out an ongoing professional development plan. This course is equivalent to 508-307 at other WTCS schools.

**508-308**
**Dental Chairside - Advanced        5.00**

This course prepares Dental Assistant students to adapt chairside skills to assisting with dental specialties as they are performed in general practice. It focuses on pediatric dentistry, orthodontics, oral maxillofacial surgery, endodontics, periodontics, and prosthodontics. Students will also develop the ability to assist with sealants, perform coronal polishing, and apply topical fluoride and topical anesthetics. This course is the equivalent to 508-308 at other WTCS schools. PREREQUISITES: 508-302 - Dental Chairside

**508-309**
**Dental Laboratory Procedure        4.00**

This course prepares Dental Assistant students to produce alginate impressions and fabricate diagnostic models, oral appliances, temporary restorations, and custom trays. Students also polish oral appliances. This course is equivalent to 508-309 in other WTCS schools. PREREQUISITES: 508-113 - Dental Materials

**508-310**
**Dental Radiography - Advanced      1.00**

This course builds on principles and skills developed in Dental Radiography. Dental Assistant students expose full mouth series, extra-oral, and specialized radiographs on adult and child patients. Emphasis is placed on protection against x-ray hazards. Students will also process, mount, and evaluate radiographs for diagnostic value. In addition, they will use radiographs to explain dental health and treatment plans to patients. This course is the equivalent of 508-310 at other WTCS schools. PREREQUISITES: 508-103 - Dental Radiography

**508-311**
**Dental Assistant Clinical - Adv    2.00**

Dental Assistant students apply skills developed in Dental Chairside - Advanced, Dental Lab Procedures, Dental Radiography - Advanced, and Dental Office Procedures in a clinical setting with patients that emphasizes integration of core abilities and basic and advanced occupational skills. This course is equivalent to 508-311 at other WTCS schools. PREREQUISITES: 508-356 or 508-306 - Dental Assistant Clinicals

**509-301**
**Medical Assistant Administrative Procedures        2.00**

This course introduces medical assistant students to office management and business administration in the medical office. Students learn to schedule appointments, perform filing, record keeping, telephone and reception duties, communicate effectively with patients and other medical care staff, and keep an inventory of supplies. Students

apply introductory medical coding skills and managed care terminology. COREQUISITES: 501-107 - Digital Literacy for Healthcare

**509-302**
**Human Body in Health and Disease   3.00**

This course focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize the causes, signs, and symptoms of diseases of the major body systems as well as the diagnostic procedures, usual treatment, prognosis, and prevention of common diseases. COREQUISITES: 501-101 - Medical Terminology

**509-303**
**Medical Assistant Lab Procedures 1        2.00**

This course introduces Medical Assistant students to laboratory procedures commonly performed by medical assistants in a medical office setting. Students perform routine laboratory procedures commonly performed in the ambulatory care setting under the supervision of a physician. Students follow laboratory safety requirements and federal regulations while performing specimen collection and processing, microbiology, and urinalysis testing. This course is equivalent to 509-303 at other WTCS schools. COREQUISITES: 509-304 - Medical Assistant Clinical Procedures 1

**509-304**
**Medical Assistant Clinical Procedures 1        4.00**

This course introduces Medical Assistant students to the clinical procedures

performed in the medical office setting. Students perform basic examining room skills, including screening, vital signs, patient history, minor surgery, and patient preparation for routine and specialty exams in the ambulatory care setting. This course is equivalent to 509-304 at other WTCS schools.

**509-305**
**Medical Assistant Lab Procedures 2 2.00**
This course prepares students to perform laboratory procedures commonly performed by medical assistants in the ambulatory care setting under the supervision of a physician. Students perform phlebotomy, immunology, hematology, and chemistry laboratory procedures. PREREQUISITES: 509-303 - Medical Assistant Lab Procedures 1

**509-306**
**Medical Assistant Clinical Procedures 2                   3.00**
This course prepares students to perform patient care skills in a medical office setting. Students perform clinical procedures, including administering medications, assisting with minor surgery, performing an electrocardiogram, assisting with respiratory testing, educating patients/community, and maintaining clinical equipment in an ambulatory care setting. PREREQUISITES: 509-303 - Medical Assistant Lab Procedures 1 and 509-304 - Medical Assistant Clinical Procedures 1 COREQUISITES: Course -308

**509-307**
**Medical Office Insurance and Finance                      2.00**
This course introduces students to health insurance and finance in the medical office. Students perform bookkeeping procedures, apply managed care guidelines, and complete insurance claim forms. Students use medical coding and managed care terminology to perform insurance related duties. PREREQUISITES: 501-107 - Digital Literacy for Healthcare and 509-302 - Human Body in Health and Disease with a minimum grade of C or TR

**509-308**
**Pharmacology for Allied Health Pharm for Allied Health                   2.00**
This course introduces students to classifying indications into correct drug categories and applying basic pharmacology principles. Students apply basic pharmacodynamics to identifying common medications, medication preparation, and administration of medications used by the major body systems. PREREQUISITES: 509-302 - Human Body in Health and Disease with a minimum grade of C or TR

**509-309**
**Medical Law, Ethics, and Professionalism                   2.00**
This course prepares students to display professionalism and perform within ethical and legal boundaries in the health care setting. Students maintain confidentiality, examine legal aspects of the medical record, perform risk management procedures, and examine legal and bioethical issues. COREQUISITES: 801-136 - English Composition 1 or 801-301 - Writing Principles with minimum grade C

**509-310**
**Medical Assistant Practicum        3.00**
This course requires students to integrate and apply knowledge and skills from all previous medical assistant courses in actual patient care settings. Learners perform medical assistant administrative, clinical, and laboratory duties under the supervision of trained mentors to effectively transition to the role of a medical assistant. This AAMA required externship lasts between 160 hours (AAMA minimum) and 216 hours.

**509-350**
**Ophthalmic Pre-Testing 1           3.00**
This course will teach clinical testing that is associated with eye examinations of all types. The student should be able to assist any eye doctor with the care of patients at the completion of this course. PREREQUISITES: 509-304 - Medical Assistant Clinical Procedures 1 with a minimum grade of C or TR COREQUISITES: 509-352 - Ocular Anatomy and Optics

**509-351**
**Ophthalmic Testing 2               3.00**
This course will teach clinical testing that is associated with eye examinations of all types. The student should be able to assist any eye doctor with the care of patients at the completion of this course. PREREQUISITES: 509-350 - Ophthalmic Pre-Testing 1 and 509-352 - Ocular Anatomy and Optics wth a minimum grade of C or TR

**509-352**
**Ocular Anatomy and Optics          3.00**
This course explores the form and function of the human eye, Basic ophthalmic optics

and vision correction are presented. Students will learn about the physiology of the eye, vision correction, diagnostic pharmaceutical agents, and pathological conditions. COREQUISITES: 509-351 - Ophthalmic Testing 2

**510-101**
**Emergency Room Nursing Theory    5.00**
This five credit (90 hour) theoretical course provides RNs with an appropriate entry level knowledge base that prepares them for the emergency room setting. This lecture/discussion format will take a systems approach, based upon the core curriculum of the ENA (Emergency Nurses Association) for Emergency Nursing. This course may be taken for professional enrichment or used toward completion of the ER Nursing ATC.

**510-105**
**LPN Refresher I - Theory/Lab       3.00**
This course is designed to meet Wisconsin State Board of Nursing requirements to be licensed as an LPN and re-enter the work force. The student will learn current theoretical nursing practices. Topics included in the course are: trends, responsibilities and scope of practice, the nursing process, documentation, medication and pharmacy updates, infection control, supervision/ delegation, nursing care specific to the aging population, and communication skills.

**510-106**
**LPN Refresher II - Clinical         1.00**
The clinical experience builds upon the theory and practicum reviewed in LPN Refresher I - Theory/Lab. This experience is

determined by the student's preference and site availability and may be performed in a hospital or long term/sub-acute facility. It is highly recommended that the majority of the hours be spent in a long-term care facility. The course consists of 70 or more hours of directly supervised or precepted clinical experience. As the experience progresses, so does the independence of the student.

**510-107**
**RN Refresher I - Theory/Lab       3.00**

This course will review and update the knowledge of the learner in application of the nursing process (assessment, analysis, planning, implementation, evaluation) in caring for clients with acute and chronic health alterations through the lifespan. Attention can be given to medical and surgical nursing care, mental health, pediatrics, obstetrics, and long term care. This course also provides a review of infection control principles, an update on pharmacology, discussion of professional communication practices, documenting and reporting health information, and issues including recent trends in nursing practice, supervision, and delegation. The laboratory portion of the course will occur in the Nursing Skills Lab and focuses on review of both basic and advanced nursing skills, electronic health record documentation, technology and equipment updates.

**510-108**
**RN Refresher II - Clinical       2.00**

This course is unique in that it can be matched to a health care setting similar to where the learner anticipates working in a clinic, hospital, or long-term care facility. With the guidance and indirect

supervision of an instructor, and side-by-side with an experienced RN preceptor, hands-on learning will review and update the knowledge and ability of the learner in clinical nursing practice. The course promotes clinical decision making, collaboration, delegation, and reflection. PREREQUISITES: 510-107 - RN Refresher I - Theory/Lab

**510-138**
**The Electronic Health Record       3.00**

In this course students will learn all aspects of the electronic health record including aspects such as security, HIPAA requirements, legalities, and interdisciplinary collaboratation. Authentic practice and documentation in the EHR will be provided through the use of a virtual program which simulates the clinical environment. PREREQUISITES: 806-177 - General Anatomy and Physiology and 806-179 - Anatomy and Physiology, Advanced with a minimum grade of C

**510-151**
**Nsg: Endocrine and Electrolytes Disorders       1.00**

This course is designed to enhance the learning of nursing students in planning care for the client with disorders of the endocrine system, fluids, electrolytes, and acid-base balance. PREREQUISITES: 543-105 - Nursing Health Alterations, 543-106 - Nursing Health Promotion, 543-107 - Nursing: Clinical Care Across the Lifespan, 543-108 - Nursing: Introduction to Clinical Care Management

**510-152**
**NSG: Applied Pediatric Concepts       1.00**

This one credit seminar format course prepares the learner to expand knowledge from previous courses to the nursing care of children. Students will actively apply nursing concepts while focusing on issues of communication, intervention, development and current thematic issues in the care of children. PREREQUISITES: 809-188 - Psychology, Developmental and 543-106 - Nursing Health Promotion

**510-153**
**Nsg: Pharmacology Applications       1.00**

This course reviews the principles of pharmacology with emphasis on major drug classifications used to treat diseases. The pathophysiology approach will help the learner connect pharmacology and the nursing process to the medical/nursing treatment of a variety of clients. PREREQUISITES: 543-103 - Nursing Pharmacology

**510-154**
**Pathophysiology for Health Professions       3.00**

This course prepares the learner to expand and reinforce knowledge as it relates to pathology across the lifespan. The course is designed to support the health care provider in understanding from a cellular level how functional and physiologic changes occur as a result of a disease. A comprehensive understanding of anatomy and physiology is addressed and promoted. Physiological alterations of focus will include: . Neoplasms . Congenital and genetic disorders . Diseases related to the child, adult and elderly . Neurologic, cardiovascular,

respiratory, digestive, genitourinary, endocrine, musculoskeletal, skin and reproductive disorders Special emphasis is placed on promoting a climate where the learner is expected to synthesize and apply previous learned concepts to physiologic adaptations because of a defined pathology. PREREQUISITES: 806-177 - General Anatomy and Physiology

**510-155**
**Principles of Gerontological Nursing       3.00**

This course is designed to prepare the nurse for the complexity of caring for the aged client and family. Content includes physiologic changes in aging, theories of aging, medications and laboratory values specific to the aging client, management of illnesses, diseases and conditions commonly seen in the aging population, and ethical and legal considerations.

**510-156**
**Assessment of the Older Adult       3.00**

This course is designed to prepare the nurse to develop key assessment skills, improve assessment insight, and utilize evidenced based tools to ensure best outcomes for the older adult. Theoretical concepts will be applied in the laboratory setting with the use case scenarios and the human patient simulator. PREREQUISITES: 510-155 - Principles of Gerontological Nursing

**510-157**
**Rehab Care and Chronic Disease Mgmt       3.00**

This course is designed to prepare the nurse to care for the patient who needs

rehabilitation to return to home. Content includes common events/illnesses that necessitate rehabilitation, orthopedic conditions, cardiovascular conditions, neuro/trauma conditions. Theoretical concepts will be applied in the laboratory setting with the use case scenarios and the human patient simulator. PREREQUISITES: 510-155 - Principles of Gerontological Nursing

**510-158**
**Gerontological Capstone Clinical     1.00**

This course is a capstone experience in which the student is assigned to practice theoretical concepts in caring for the aged client. Nurses will have the opportunity to perform nursing interventions under the supervision of an experienced gerontological nurse in a setting that provides specialty care for the aged client. PREREQUISITES: 510-155 - Principles of Gerontological Nursing and 510-156 - Assessment of the Older Adult

**510-159**
**Physical Assessment     3.00**

In this course students will apply prior theoretical learning about performing a head-to-toe physical assessment to Digital Clinical Experiences a virtual world of patients with a variety of real world health needs. Upon completion of the course students are able to demonstrate and perfect their clinical reasoning skills as they interact with life-like patients; capable of responding to open-ended questions, listen to heart, lung, and bowels sounds with a virtual stethoscope, synthesize labs and assessment findings, and document. PREREQUISITES: 806-177 - General Anatomy and Physiology and 806-179 -

Anatomy and Physiology, Advanced with a minimum grade of C required

**510-301**
**Health Unit Coordinator**
**Procedures I     3.00**

Health Unit Coordinator Procedures I is an introductory course to the HUC profession. The course will introduce the student to the environment, communication, and managing client information in healthcare.

**510-302**
**Health Unit Coordinator**
**Procedures II     3.00**

Health Unit Coordinator Procedures II is a more advanced course that introduces the student to the order process, transcription of medication and infusion orders, laboratory and diagnostic orders, interdisciplinary treatment orders, and specialty unit orders. PREREQUISITES: 510-301 - Health Unit Coordinator Procedures I

**510-303**
**Health Unit Coordinator Clinical     3.00**

This course provides opportunities for learners to apply the concepts and skills of a Health Unit Coordinator in a clinical setting. COREQUISITES: 510-302 - Health Unit Coordinator Procedures II

**510-325**
**Certified Medication Assistant     3.00**

Contracted course only. Contact Business and Workforce Solutions. Medication Assistants are Certified Nursing Assistants who have completed an approved training

program and have received additional certification to administer medications and perform nonsterile treatments in a Skilled Nursing Facility in Wisconsin, following the policies and procedures of their organization. They perform the delegated function of medication administration under the supervision of a registered nurse. Routes of administration include oral, topical, eye, ear, and nose drops; vaginal; rectal; transdermal; and oral inhalers. PREREQUISITES: 543-300 - Nursing Assistant with a minimum grade of C

**512-125**
**Surgical Technology, Intro to     4.00**

Provides the foundational knowledge of the occupational environment. Principles of sterilization and disinfection are learned. Surgical instruments are introduced. Preoperative patient care concepts are simulated. Lab practice in included. PREREQUISITES: 806-177 - General Anatomy and Physiology COREQUISITES: 501-101 - Medical Terminology

**512-126**
**Surgical Tech Fundamentals 1     4.00**

Focuses on preparing the patient and operating room for surgery. Principles of sterile technique are emphasized as the student moves into the scrub role. Lab practice is included. PREREQUISITES: 806-177 - General Anatomy and Physiology COREQUISITES: 501-101 - Medical Terminology and 512-125 - Surgical Technology, Intro to

**512-127**
**Exploring Surgical Issues     2.00**

Explores a variety of issues related to surgical technology. Emphasis is placed on becoming a professional member of the surgical team. COREQUISITES: 512-125 - Surgical Technology, Intro to and 512-126 - Surgical Tech Fundamentals 1

**512-128**
**Surgical Tech Fundamentals 2     4.00**

Focuses on enhancing surgical technology skills while functioning as a sterile team member. Lab and/or clinical practice is included. PREREQUISITES: 512-125 - Surgical Technology, Intro to, 512-126 - Surgical Tech Fundamentals 1, 512-127 - Exploring Surgical Issues, and 501-101 - Medical Terminology COREQUISITES: 806-179 - Anatomy and Physiology, Advanced, 806-197 - Microbiology, and 512-129 - Surgical Pharmacology

**512-129**
**Surgical Pharmacology     2.00**

Basic study of drug classifications, care, and handling of drugs and solutions, application of mathematical principles in dosage calculations, terminology related to pharmacology, anesthesia, and drugs used in surgery. PREREQUISITES: 512-125 - Surgical Technology, Intro to and 512-126 - Surgical Tech Fundamentals 1

**512-130**
**Surgical Skills Application     2.00**

Provides a transition from the academic to the clinical setting. Learners integrate the surgical technologist skills as they apply to various surgical procedures.

PREREQUISITES: 512-125 - Surgical Technology, Intro to, 512-126 - Surgical Tech Fundamentals 1, 512-128 - Surgical Tech Fundamentals 2, and 512-127 - Exploring Surgical Issues with a minimum grade of C or TR COREQUISITES: 512-129 - Surgical Pharmacology

**512-131**
**Surgical Interventions 1** **4.00**

Provides the foundational knowledge of surgical core and specialty procedures. Examines the pathophysiology, diagnostic interventions, health sciences, and surgical techniques for a variety of procedures. PREREQUISITES: 512-128 - Surgical Tech Fundamentals 2 and 512-130 - Surgical Skills Application and 801-136 - English Composition 1

**512-132**
**Surgical Technology Clinical 1** **3.00**

Apply basic surgical theories, principles, and procedural techniques in the operating room. Students begin to function as team members under the guidance of the instructor and authorized clinical personnel. PREREQUISITES: 512-129 - Surgical Pharmacology, 512-128 - Surgical Tech Fundamentals 2, and 512-130 - Surgical Skills Application with a minimum grade of C or TR COREQUISITES: 512-131 - Surgical Interventions 1

**512-133**
**Surgical Technology Clinical 2** **3.00**

Further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during surgical procedures.

PREREQUISITES: 512-129 - Surgical Pharmacology, 512-132 - Surgical Technology Clinical 1, and 512-130 - Surgical Skills Application with a minimum grade of C or TR COREQUISITES: 512-131 - Surgical Interventions 1

**512-134**
**Surgical Interventions 2** **3.00**

Expands knowledge of core and specialty surgical procedures by incorporating pathophysiology, diagnostic interventions, health sciences, and surgical techniques. PREREQUISITES: 512-131 - Surgical Interventions 1 and 512-133 - Surgical Technology Clinical 2

**512-135**
**Surgical Technology Clinical 3** **3.00**

Further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during surgical procedures. PREREQUISITES: 512-131 - Surgical Interventions 1 and 512-133 - Surgical Technology Clinical 2 COREQUISITES: 512-142 - Surgical Interventions II

**512-136**
**Surgical Technology Clinical 4** **3.00**

During this clinical course the student will function relatively independently. Serves as a transition from a student perspective to an employee by utilizing advanced skills for an entry level Surgical Technologist. PREREQUISITES: 512-135 - Surgical Technology Clinical 3 COREQUISITES: 512-142 - Surgical Interventions II

**512-142**
**Surgical Interventions II** **4.00**

Expands knowledge of core and specialty surgical procedures by incorporating pathophysiology, diagnostic interventions, health sciences, and surgical techniques. PREREQUISITES: 512-131 - Surgical Interventions 1 and 512-133 - Surgical Technology Clinical 2 COREQUISITES: 512-135 - Surgical Technology Clinical 3 and 512-136 - Surgical Technology Clinical 4

**513-110**
**Lab Skills, Basic** **1.00**

This course explores health career options and the fundamental principles and procedures performed in the clinical laboratory. You will utilize medical terminology and basic laboratory equipment. You will follow required safety and infection control procedures and perform simple laboratory tests. COREQUISITES: 513-111 - Phlebotomy

**513-111**
**Phlebotomy** **2.00**

This course provides opportunities for learners to perform routine venipuncture, routine capillary puncture, and special collection procedures. COREQUISITES: 513-110 - Lab Skills, Basic

**519-324**
**Facilities Service OSHA** **1.00**

Prepares students for custodial service employment. Introduces students to safety in the work place, hazard communication and bloodbourne pathogen protection. Students will gain knowledge of chemical fundamentals and safe handling of cleaning chemicals.

**519-325**
**Cleaning Fundamentals** **3.00**

Prepares students for custodial services employment. Develops knowledge and experience in general cleaning techniques, chemical usage, tools and equipment usage and identification of maintenance issues encountered by custodial staff. Includes common area, office/classroom, general kitchen, and restroom cleaning.

**519-326**
**Floor Care** **2.00**

Prepares students for custodial services employment. Introduces floor types, floor care chemicals and equipment. Develops knowledge and experience in assessment of current floor care needs and performance of floor care maintenance techniques (including routine, interim and restorative).

**519-327**
**Carpet Care** **2.00**

Prepares students for custodial services employment. Introduces carpet types, carpet care chemicals and equipment. Student will gain knowledge and experience in assessment of current carpet care needs and performance of carpet care maintenance techniques (routine, interim and restorative).

**519-328**
**Green Cleaning** **1.00**

Prepares students for custodial service employment. Introduces students to effective cleaning techniques and chemicals used to protect the public health without harming the environment.

**520-101**

**Human Services/Introduction** 3.00

An overview of human services, types of agencies and delivery systems and human service as a career field. Emphasis will be on developing the generalist concept and the role of the associate degree human service worker.

**520-102**

**Crisis Intervention in Human Services** 3.00

Students will learn about crisis theory and its application to a variety of clientele and contexts. Students will also learn and practice a variety of verbal and non-verbal approaches to working with the client in crisis, steps in maintaining safety and will demonstrate their learning through direct, hands on approaches. Upon successful completion of the course students will be able to obtain a certificate in Non-Violent Crisis Intervention through the Crisis Prevention Institute. This course does not teach CPI restraint methods.

**520-105**

**Interviewing Principles and Recordkeeping** 3.00

Introduction to interviewing and recordkeeping skills as practiced in human services agencies, including social history, summary recording, case assessment and planning.

**520-106**

**Counseling the Criminal Offender** 1.00

This course will expose you to a theoretical model underlying criminal personalities and practice in counseling. Through lectures, demonstrations, small-group discussions,

experiential activities, readings, and writing papers, you are assisted to critically evaluate the practical applications of contemporary counseling perspectives related to the criminal tactics and errors in thinking.

**520-107**

**Mindfulness** 1.00

Students will learn mindfulness, a state of active open attention on the present that research has shown can reduce stress and emotional reactivity, improve ability to concentrate, boost working memory, increase cognitive flexibility, improve immune system, and much more. This course can show you how to change your life and your relationships by cultivating skills that lead to experiencing a better quality of life, both personally and professionally.

**520-108**

**Trauma Sensitive Services** 1.00

This course identifies the various models of trauma sensitive services and how trauma sensitive services can benefit clients and behavioral health organizations. Students will learn the concepts behind trauma informed care and how state and federal mandates expect trauma informed care to be implemented.

**520-110**

**Community Resources and Services** 3.00

This course seeks to expose the student to a wide variety of community agencies, resources, and programs through the use of guest speakers and site visits. The functions, funding, clients served, eligibility requirements, and referral procedures of the agency will be emphasized.

**520-115**

**Counseling/Introduction to** 3.00

This course is designed to provide the student with an overview of the major counseling theories, their techniques and the applications of these to various situations. The student will be able to practice the use of these counseling techniques in initiating, structuring and terminating a counseling session. PREREQUISITES: 520-105 - Interviewing Principles and Recordkeeping

**520-121**

**Human Service Field Experience II** 3.00

The student is given the opportunity to demonstrate understanding of more advanced social work skills and techniques used in the field. This course will meet in a weekly seminar to monitor progress and address concerns. PREREQUISITES: 520-124 - Human Service Field Experience and 520-140 - Group Counseling with minimum grade C

**520-124**

**Human Service Field Experience** 3.00

The student is given an opportunity to demonstrate an understanding of social work skills and techniques under supervision in a working situation. The class will meet in a weekly seminar to monitor progress and address concerns. PREREQUISITES: 520-127 - Professional Practices in Human Services 804-135 - Quantitative Reasoning and 801-136 - English Composition 1 COREQUISITES: 520-140 - Group Counseling

**520-127**

**Professional Practices in Human Services** 3.00

This course prepares students to enter the human services profession and maintain effectiveness as a human service practitioner. Emphasis will be placed on gaining a working knowledge of professional codes of ethics. Students will explore social/ ethical issues that impact the profession. Professional credentialing, continuing education, and maintaining vitality within the field will be stressed. COREQUISITES: 520- 101 - Human Services/Introduction

**520-128**

**Child Welfare Policy and Practice** 3.00

This class helps the student examine the economic, social, and political aspects of children's issues. It also addresses the U.S. welfare system, including proprietary, private, voluntary, and governmental agencies.

**520-140**

**Group Counseling** 3.00

The focus of this course is on the group dynamics and group process. Various counseling approaches and their application to group work will be explored along with the developmental stages of groups. Individual behaviors and motivations in both task and counseling groups will be identified. Emphasis will be placed on extensive role-play situations for knowledge and skill integration. PREREQUISITES: 520-115 - Counseling/Introduction to

**520-141**
**Survey Public Service Organizations 3.00**
This course will explore various programs provided through public services and go over eligibility requirements for each program. It is designed to survey the skills needed to serve as a financial assistant worker fior Racine Workforce Development.

**520-142**
**Motivational Interviewing for Human Srv          1.00**
This course will examine the theory and application of motivational interviewing as an intervention in human services. The course will examine the role of motivation, strategies to help clients resolve ambivalence about change, methods to assess readiness to change and traits in the human service worker which increases motivation to change.

**520-143**
**Neuroscience in Human Services      1.00**
This course will examine the theory and application of neurosciences in human services, to increase understanding of how the brain impacts, and is impacted by human behavior. Student's will: 1. Demonstrate a basic understanding of how the brain and nervous system works, 2. Recognize how the healthy brain organizes experiences into narratives, 3. Understand the concept of the social brain and its role in attachment, 4. Understand the link between neurobiological disorganization and psychopathology and 5. Understand how the human services relationship has the potential to re-organize brain functioning.

**520-144**
**Human Services Program Orientation                1.00**
This course is designed to familiarize students with the field of Human Services, the resources available to them at Gateway and the expectations, support and requirements that will be necessary to complete the Human Services degree at Gateway Technical College. Focus on the course will be on how best to utilize one's strengths, navigate technology, identify needs/resources and strategies to become a successful learner.

**520-150**
**Gerontology/Introduction to           3.00**
Identifies basic theories and facts about the aging process leading toward application of methods and techniques of serving the aged. Student will be encouraged to develop an understanding of the psychological and sociological experience of the older adult population.

**520-151**
**Family Theory and Practice           3.00**
Provides the student with a broad understanding of family systems theory. The student will apply knowledge of structural family theory and brief strategic family theory in case studies. The student will also analyze case situations involving violence within the family system.

**520-152**
**Aspects of Disabilities               3.00**
This course is an introduction to the history of services and legislative processes involved in provision of services to people with disabilities. It is a review of medical diseases and disabilities, including etiology, physiology, prognosis, and impact on disabled individuals and their environment.

**520-160**
**Correctional Processes                3.00**
A study of present correctional policies and processes in the criminal justice field as it affects today's society in terms of deterrents and rehabilitation and a look at future trends.

**520-161**
**Child and Adolescent Mental Health  3.00**
This course will examine the psychological, social/environmental, cultural and diagnostic aspects of children's mental health and mental illness. It will also address areas of intervention and resilience. Focus will be on identifying symptoms, treatment approaches and current trends affecting practice in this area.

**522-101**
**EDU: Teamwork in School Settings   3.00**
This course introduces the learner to group dynamics, school and class policies, liability, confidentiality, and safety issues as they relate to the role of the instructional assistant as a member of a team.

**522-102**
**EDU:Techniques for Reading and Language Arts                       3.00**
This course focuses on the instructional assistant's role in reading and language arts. The learner gains an understanding of how to work with all children individually and in groups through questioning, listening, and guiding techniques. This course also addresses the use of current classroom materials plus enrichment and support activities. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**522-103**
**EDU: Introduction to Educational Practices                          3.00**
This course addresses the fundamentals of teaching methodologies, learning styles, factors influencing teaching effectiveness, strategies to meet the needs of all learners, questioning techniques, and basic assessment practices.

**522-104**
**EDU: Technology/Media Rsrces      3.00**
This course provides the opportunity for the learner to develop the knowledge and skills in the area of media and computer resources as it relates to the instructional assistant. Students in this course will gain hands-on computer and media experience and will learn how to operate a variety of equipment. A variety of school related documents will be prepared while using selected software. Students incorporate images into documents from a variety of sources, including digital cameras and scanners.

**522-106**
**EDU:Child and Adolescent Development                             3.00**
This course provides an overview of growth and development from birth through adolescence. It acquaints the learner with the fundamental tasks of physical, motor, perceptual, cognitive, social/emotional, and language development.

**522-107**
**EDU:Overview of Special Education 3.00**

This course provides training in the classifications of special education, pre-K to grade 12. Studies include causes of special needs and intervention strategies. The course examines key development milestones and how they relate to physical, mental, emotional, or social development of children.

**522-111**
**EDU:Guiding and Managing Behavior 3.00**

This course focuses on guiding children's behavior to keep them safe and healthy. It includes strategies for improving behavior and problems of all levels in the inclusive classroom, on the bus, on the playground, and on field trips.

**522-118**
**EDU: Techniques for Math 3.00**

This course will address techniques for the instructional assistant in assisting the classroom teacher in group and individual tutoring activities in math. Current practice including manipulatives, problem solving, and assessment, will be covered within the framework of state and national standards. PREREQUISITES: 804-135 - Quantitative Reasoning with a minimum grade C

**522-120**
**EDU: Techniques for Science 3.00**

This course is an introduction to the content and processes of science. Strategies of teaching science will be studied and practiced and will prepare you in assisting the classroom teacher in group and individual activities in science. Current science processes, strategies, procedures, assessment options, and factors affecting science learning will be explored.

**522-122**
**EDU:Advanced Reading and Language Arts 3.00**

Students will gain the knowledge and skills needed to support and encourage children as independent, strategic readers as well as techniques to support children through the writing process. Children's literature will be integrated throughout the course. PREREQUISITES: 522-102 - EDU:Techniques for Reading and Language Arts and 801-136 - English Composition 1

**522-124**
**EDU:Supporting Students with Disabilities 3.00**

This course includes strategies to manage the learning environment proactively to prevent behavior problems and promote learning for students with disabilities.

**522-129**
**EDU: Practicum 1 3.00**

Practicum I will introduce the student to a diverse classroom setting at an elementary, middle school and/or high school level. The student will observe children and practice techniques under the guidance of a DPI certified teacher.

**522-131**
**EDU: Practicum 2 3.00**

Apply the skills learned in previous program courses in a school setting while under the supervision of a DPI certified teacher. Students support children with special education needs and programming.

Job search skills will be addressed and a professional portfolio will be completed. PREREQUISITES: 522-118 - EDU: Techniques for Math 522-122 - EDU:Advanced Reading and Language Arts 522-129 - EDU: Practicum 1 with a minimum grade C

**522-132**
**EDU: Positive Classroom Mgmt Tech 3.00**

This course examines the impact of issues such as divorce, alcoholism, child abuse, youth suicide, stress, violence and gangs on behavior in the classroom. Conflict resolution techniques and de-escalation strategies and with an emphasis on prevention will also be examined. PREREQUISITES: 522-111 - EDU:Guiding and Managing Behavior

**524-108**
**PTA Musculoskeletal Anatomy and Function 2.00**

This course is a preparatory and enrichment elective for students who are about to enter first semester PTA program core courses. It provides an in-depth look at musculoskeletal anatomy, including anatomical terms, bony anatomy, cardinal planes and motions, and joint and muscle structure and function. PREREQUISITES: 806-177 - General Anatomy and Physiology

**524-138**
**PTA Kinesiology 1 3.00**

This course introduces basic principles of musculoskeletal anatomy, kinematics, and clinical assessment. Students locate and identify muscles, joints, and other landmarks of the lower quadrant, in addition to assessing range of motion and strength.

**524-139**
**PTA Patient Interventions 4.00**

This course is an introduction to basic skills and physical therapy interventions performed by the physical therapist assistant.

**524-140**
**PTA Professional Issues 1 2.00**

This course introduces the history and development of the physical therapy program, legal and ethical issues, the interdisciplinary health care team, and professional communication skills. This course is equivalent to 524-140 at other WTCS schools.

**524-141**
**PTA Kinesiology 2 4.00**

This course applies basic principles from PTA Kinesiology 1 to the axial skeleton and upper quadrant, including location and identification of muscles, joints, and other landmarks. Students assess range of motion and strength of the axial skeleton and upper quadrant and integrate analysis of posture and gait. This course is equivalent to 524-141 at other WTCS schools. PREREQUISITES: 524-138 - PTA Kinesiology 1

**524-142**
**PTA Therapeutic Exercise 3.00**

This course provides instruction on the implementation of a variety of therapeutic exercise principles. Learners implement, educate, adapt, and assess responses to therapeutic exercises. PREREQUISITES: 806-177 - General Anatomy and Physiology with minimum grade C COREQUISITES: 524-156 - PTA Applied Kinesiology 1

**524-143**

**PTA Therapeutic Modalities** 4.00

This course develops the knowledge and technical skills necessary to perform numerous therapeutic modalities likely to be utilized as a PTA.

**524-144**

**PTA Principles of Neuromuscular Rehabilitation** 4.00

This course integrates concepts of neuromuscular pathologies, physical therapy interventions, and data collection in patient treatment. It is equivalent to 524-144 at other WTCS schools. PREREQUISITES: 524-139 - PTA Patient Interventions 524-142 - PTA Therapeutic Exercise 524-157 - PTA Applied Kinesiology 2 minimum grade C

**524-145**

**PTA Musculoskeletal Rehabilitation** 4.00

This course integrates concepts of musculoskeletal pathologies, physical therapy interventions, and data collection in patient treatment. It is equivalent to 524-145 at other WTCS schools. PREREQUISITES: 524-139 - PTA Patient Interventions with minimum grade C COREQUISITES: 524-142 - PTA Therapeutic Exercise and 524-157 - PTA Applied Kinesiology 2

**524-146**

**PTA Management of Cardiopulmonary and Integumentary Conditions** 3.00

This course integrates concepts of cardiopulmonary and integumentary pathologies, physical therapy interventions, and data collection in patient treatment. It is equivalent to 524-146 at other WTCS schools. PREREQUISITES: 524-139 - PTA Patient Interventions 524-142 - PTA

Therapeutic Exercise 524-157 - PTA Applied Kinesiology 2 minimum grade C

**524-147**

**PTA Clinical Practice 1** 2.00

This course provides a part-time clinical experience to apply foundational elements, knowledge, and technical skills pertinent to physical therapy practice. It is the equivalent of 524-147 at other WTCS schools. COREQUISITES: 524-143 - PTA Therapeutic Modalities and 524-157 - PTA Applied Kinesiology 2

**524-148**

**PTA Clinical Practice 2** 3.00

This course provides another part-time clinical experience to apply foundational elements, knowledge, and technical skills required of the entry level physical therapist assistant in various practice settings. It is equivalent to 524-148 at other WTCS schools. PREREQUISITES: 524-147 - PTA Clinical Practice 1

**524-149**

**PTA Rehabilitation Across the Lifespan** 2.00

This capstone course integrates concepts of pathology, physical therapy interventions, and data collection across the lifespan. In addition, the PTA's role in health, wellness and prevention, reintegration, and physical therapy interventions for special patient populations will be addressed. This course is equivalent to 524-149 at other WTCS schools. PREREQUISITES: 524-144 - PTA Principles of Neuromuscular Rehabilitation, 524-145 - PTA Musculoskeletal Rehabilitation, and 524-148 - PTA Clinical Practice 2 COREQUISITES: Course 24-146

**524-150**

**PTA Professional Issues 2** 2.00

This course incorporates professional development, advanced legal and ethical issues, healthcare management and administration, and further development of professional communication strategies. PREREQUISITES: 524-140 - PTA Professional Issues 1 COREQUISITES: 524-148 - PTA Clinical Practice 2

**524-151**

**PTA Clinical Practice 3** 5.00

This course provides a full-time clinical experience to apply foundational elements, knowledge, and technical skills required of the entry level physical therapist assistant in various practice settings. PREREQUISITES: 524-144 - PTA Principles of Neuromuscular Rehabilitation, 524-145 - PTA Musculoskeletal Rehabilitation, 524-146 - PTA Management of Cardiopulmonary and Integumentary Conditions, and 524-148 - PTA Clinical Practice 2

**524-156**

**PTA Applied Kinesiology 1** 4.00

Introduces basic principles of musculoskeletal anatomy, kinematics, and clinical assessment. Students locate and identify muscles, joints, and other landmarks of the lower quadrant in addition to assessing range of motion and strength. PREREQUISITES: 801-136 - English Composition 1 with a minimum grade D

**524-157**

**PTA Applied Kinesiology 2** 3.00

Applies basic principles from PTA Kinesiology 1 to the axial skeleton and upper quadrant including location and identification

of muscles, joints and other landmarks. Assess range of motion and strength of the axial skeleton and upper quadrant. Integrate analysis of posture and gait. PREREQUISITES: 524-156 - PTA Applied Kinesiology 1 with a minimum grade of C or TR

**527-500**

**Wastewater Treatment Introduction to** 1.50

Provides an overview of the different processes used in wastewater treatment plants, as well as the collection system and sludge disposal procedures. Covers calculations used to determine plant loadings, detention times and percent removal efficiencies. Environmental regulations, preventive maintenance practices and basic safety precautions are covered.

**527-503**

**Conventional Wastewater Treatment** 1.50

Covers the basic biology, chemistry and operational controls of wastewater treatment processes: pre- and primary treatment of wastewater, activated sludge, trickling filters and RBCs (Rotating Biological Contactors). The structure and function of major equipment is explained. Various lab tests and the calculations associated with them are presented.

**527-505**

**Advanced Wastewater Treatment** 2.00

Develops competence in management of wastewater treatment processes including disinfection treatment of wastewater, basic and advanced phosphorus removal, tertiary

filtration, mechanical sludge handling, sludge dewatering, and sludge disposal. Students use the Internet to locate resources useful in managing wastewater treatment processes.

**527-511**
**Water Chemistry**  **2.00**

Explores basic chemical concepts and principles such as elements, compounds, states of matter, and reactions that are applicable to evaluating and regulating water quality and applies them to water and wastewater treatment. Learners also examine laboratory techniques, equipment, quality assurance, and record keeping and reporting.

**527-520**
**Hydraulics of Water and Wastewater**  **1.50**

Provides information and procedures necessary to predict and manipulate the hydraulics of water transmission and collection. The primary work assignments involve the reading and use of hydraulic principles and then applying them in a real-life case analysis as a laboratory project.

**527-525**
**Industrial Wastes**  **1.50**

Focuses on the control of wastewater resulting from the processing of a variety of industrial materials. Methods of waste initiation, impact, minimization, and the treatment of waste process streams of metal, pulp and paper, and food and beverage industry operations are emphasized and analyzed.

**527-530**
**Groundwater Supply and Distribution**  **1.50**

Provides environmental and treatment information necessary to operate a potable groundwater well system. Basic distribution system design and component use will also be detailed. Students examine a groundwater treatment plant and make operational assessments based on established industry criteria.

**527-536**
**Equipment Maintenance and Instrumentation**  **2.00**

Develops skills in the identification and application of tools, correcting facility and system mechanical problems, and understanding the complete concept of preventative and predictive maintenance. Students will research preventative and predictive maintenance systems. Skills will be developed using instrumentation for process control. Supervisory Control and Data Acquisition including control diagrams, designs and applications will be studied.

**530-160**
**Healthcare Informatics**  **4.00**

Emphasizes the role of information technology in healthcare through an investigation of the electronic health record (EHR), business, and health information software applications. Learner will develop skills to assist in information systems design and implmentation. PREREQUISITES: 103-143 - Computers for Professionals 530-176 - Health Data Management

**530-161**
**Health Quality Management**  **3.00**

Explores the programs and processes used to manage and improve healthcare quality. Addresses regulatory requirements as related to performance measurement, assessment, and improvement, required monitoring activities, risk management and patient safety, utilization management, and medical staff credentialing. Emphasizes the use of critical thinking and data analysis skills in the management and reporting of data. PREREQUISITES: 801-197 - Technical Reporting

**530-162**
**Foundations of HIM**  **3.00**

Introduces learners to the healthcare delivery system, and the external forces that influence healthcare delivery. Sets an understanding for the expectations and standards related to professional ethics, confidentiality and security of health information. Differentiates the use and structure of healthcare data elements, data standards, and the relationships between them. Prepares learners to collect and maintain health data to ensure a complete and accurate health record. COREQUISITES: 501-107 - Digital Literacy for Healthcare and 806-177 - General Anatomy and Physiology

**530-163**
**Healthcare Stats and Analytics**  **3.00**

Explores the management of medical data for statistical purposes focusing on descriptive and inferential statistics including definition, collection, calculation and compilation of numerical data. Examines data analytics, retrieval, presentation and research methodologies. PREREQUISITES: 530-162 - Foundations of HIM Foundations

or complete courses 530-176 - Health Data Management and 530-181 - The Health Record, Introduction to

**530-164**
**Health Informatics, Intro to**  **3.00**

Emphasizes the role of information technology in healthcare through an investigation of the electronic health record (EHR), business, and health information software applications. Learners will develop skills to assist in enterprise information management and database architecture design and implementation. PREREQUISITES: 501-107 - Digital Literacy for Healthcare or 103-143; COREQUISITES: 530-162 - Foundations of HIM or 530-176 - Health Data Management and 530-181 - The Health Record, Introduction to

**530-165**
**Intermediate Coding**  **3.00**

Prepares students to assign ICD and CPT/HCPCS codes supported by medical documentation and official coding guidance to support appropriate reimbursement. Students will participate in CDI activities, including preparation of appropriate physician queries in accordance with compliance guidelines. PREREQUISITES: 530-197 - ICD Diagnosis Coding ICD Diagnosis Coding and 530-199 - ICD Procedure Coding Procedure Coding COREQUISITES: 530-185 - Healthcare Reimbursement Healthcare Reimbursement

**530-166**
**HIT Capstone**  **1.00**

Prepares the student to enter the workforce. Topics may include resume and cover

letter writing, interviewing skills, portfolio preparation, and RHIT examination preparation. COREQUISITES: 530-196 - Professional Practice Professional Practice 1

**530-167**
**Management of HIM Resources** 3.00

Examines the principles of management to include planning, organizing, human resource management, directing, and controlling as related to the health information department. PREREQUISITES: 530-162 - Foundations of HIM or complete courses 530-176 - Health Data Management and 530-181 - The Health Record, Introduction to

**530-176**
**Health Data Management** 2.00

This course introduces the use and structure of health care data elements, data sets, data standards, their relationship to primary and secondary record systems, and health information processing. PREREQUISITES: 530-181 - The Health Record, Introduction to

**530-177**
**Healthcare Statistics and Research** 2.00

This course explores the management of medical data for statistical purposes. It focuses on descriptive statistics, including definitions, collection, calculation, compilation, and display of numerical data. Vital statistics, registries, and research are examined. PREREQUISITES: 530-176 - Health Data Management

**530-178**
**Healthcare Legal and Ethical Issues**
**Healthcare Law and Ethics** 2.00

This course examines regulations for the content, use, confidentiality, disclosure, and retention of health information. An overview of the legal system and ethical issues are addressed. PREREQUISITES: 530-162 - Foundations of HIM or complete courses 530-176 - Health Data Management and 530-181 - The Health Record, Introduction to

**530-181**
**The Health Record, Introduction to** 1.00

This course prepares students to illustrate the flow of health information and to locate and analyze health record documentation. Learners will be introduced to types of data found in a medical record and how that information flows in the health care facility from the point of entry to the point of discharge. Confidentiality and security of health information is emphasized.

**530-182**
**Human Disease for Health Professions** 3.00

This course focuses on the common diseases of each body system as encountered in all types of health care settings by health information professionals. Emphasis is placed on understanding the etiology (cause), signs and symptoms, diagnostic tests, and treatment (including pharmacologic) of each disease. PREREQUISITES: 501-101 - Medical Terminology and 806-177 - General Anatomy and Physiology

**530-184**
**CPT Coding** 3.00

Prepares learners to assign CPT/ HCPCS codes, supported by medical documentation, with entry level proficiency. Learners apply instructional notations, conventions, rules, and official coding guidelines when assigning codes to case studies and actual medical record documentation. PREREQUISITES: 530-162 - Foundations of HIM and 530-182 - Human Disease for Health Professions

**530-185**
**Healthcare Reimbursement** 2.00

This course prepares students to compare and contrast health care payers and to comply with regulations related to fraud and abuse. Specific topics include inpatient and outpatient payment systems, fraud and abuse issues regarding coding of health care services, and an illustration of the reimbursement cycle. Students assign Diagnosis Related Groups (DRGs), Ambulatory Payment Classifications (APCs), and Resource Utilization Groups (RUGs) with entry-level proficiency, using computerized encoding and grouping software. PREREQUISITES: 530-197 - ICD Diagnosis Coding and 530-199 - ICD Procedure Coding COREQUISITES: 530-165 - Intermediate Coding 530-184 - CPT Coding

**530-193**
**Healthcare Quality Management** 2.00

This course explores the programs and processes used to maintain quality in healthcare, addressing regulatory requirements as related to quality improvement, utilization (case) management,

risk management, and medical staff credentialing through the use of quality improvement methodologies and tools. PREREQUISITES: 530-177 - Healthcare Statistics and Research

**530-194**
**HIM Organizational Resources** 2.00

This course is a study of the principles of management, including planning, organizing, human resource management, directing, and controlling as related to the health information department. COREQUISITES: 530-161 - Health Quality Management

**530-195**
**Applied Coding** 2.00

This course prepares students to assign ICD and CPT/HCPCS codes supported by medical documentation with an intermediate level of proficiency. Students will prepare appropriate physician queries in accordance with compliance guidelines and will assign codes to optimize appropriate reimbursement. COREQUISITES: 530-185 - Healthcare Reimbursement

**530-196**
**Professional Practice** 3.00

Applies previously acquired skills and knowledge by means of clinical experiences in the technical procedures of health record systems and discussion of clinical situations. Student may participate in a supervised clinical experience in healthcare facilities. PREREQUISITES: 530-164 - Health Informatics, Intro to 530-167 - Management of HIM Resources 530-178 - Healthcare Legal and Ethical Issues Healthcare Law and Ethics 530-197 - ICD Diagnosis Coding

and 530-199 - ICD Procedure Coding with a minimum grade of C COREQUISITES: 530-161 - Health Quality Management 530-184 - CPT Coding 530-185 - Healthcare Reimbursement

**530-197**
**ICD Diagnosis Coding** 3.00

Prepares students to assign ICD diagnosis codes supported by medical documentation with entry level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD diagnosis codes to case studies and actual medical record documentation. PREREQUISITES: 530-162 - Foundations of HIM and 530-182 - Human Disease for Health Professions

**530-198**
**Professional Practice 2** 3.00

The second of a two semester sequence of supervised technical and managerial clinical experiences in health care facilities, this course provides application of previously acquired skills and knowledge and discussion of clinical situations, preparation for the certification examination, and pre-graduation activities. PREREQUISITES: 530-196 - Professional Practice and 530-160 - Healthcare Informatics COREQUISITES: 530-161 - Health Quality Management, 530-194 - HIM Organizational Resources, and 530-195 - Applied Coding

**530-199**
**ICD Procedure Coding** 2.00

Prepares students to assign ICD procedure codes supported by medical documentation with entry level proficiency. Students

apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD procedure codes to case studies and actual medical record documentation. PREREQUISITES: 530-162 - Foundations of HIM and 530-182 - Human Disease for Health Professions

**531-107**
**EMT Intermediate/Paramedic Theory II Part C** 2.00

This 2nd semester course will provide the lecture component and theory transitioning the certified EMT-Intermediate to the EMT-Paramedic level, with a focus on EMS operations.

**531-109**
**Emergency Medical Technician** 5.00

Emergency Medical Technician is a 180 hour entry-level training in emergency medicine. This program provides students the skills and knowledge needed to assess and manage all types of injuries and acute illnesses while providing safe and rapid patient transport to an appropriate medical facility. Components of the course include lecture, practical lab, and hospital clinical experience. Upon program completion, students are prepared to take the National Registry of Emergency Medical Technicians examination to be licensed as an Emergency Medical Technician in Wisconsin. Students wishing to pursue other levels of EMS licensure, such as Advanced EMT or Paramedic, must first be licensed as an Emergency Medical Technician before being eligible to register in subsequent EMS licensure programs.

**531-323**
**Law Enforcement Emergency Response** 1.00

This course is designed to prepare the primary responder to an accident or sudden severe illness in the appropriate lifesaving techniques to be carried out at the scene until regular emergency care and transportation can be obtained.

**531-326**
**Emergency Medical Technician** 5.00

Emergency Medical Technician is a 180 hour entry-level training in emergency medicine. This program provides students the skills and knowledge needed to assess and manage all types of injuries and acute illnesses while providing safe and rapid patient transport to an appropriate medical facility. Components of the course include lecture, practical lab, and hospital clinical experience. Upon program completion, students are prepared to take the National Registry of Emergency Medical Technicians examination to be licensed as an Emergency Medical Technician in Wisconsin. Students wishing to pursue other levels of EMS licensure, such as Advanced EMT or Paramedic, must first be licensed as an Emergency Medical Technician before being eligible to register in subsequent EMS licensure programs. PREREQUISITES: Student must be accepted to program 30-531-3, Emergency Medical Technician, in order to register for this course.

**531-327**
**Advanced EMT** 4.00

If you currently hold a State of Wisconsin licensure as an Emergency Medical

Technician (EMT), you can pursue additional training in intravenous access, fluid and medication administration, clinical decision making skills, and patient assessment at this advanced level. Upon completion of the didactic, lab, and clinical components of this program, the participant will be eligible for testing and credentialing through the National Registry of Emergency Medical Technicians. PREREQUISITES: 531-326 - Emergency Medical Technician with a minimum grade of C or TR

**531-911**
**EMS Fundamental** 2.00

This course provides the paramedic student with comprehensive knowledge of EMS systems, safety, wellbeing, legal issues, and ethical issues, with the intended outcome of improving the health of EMS personnel, patients, and the community. The students will obtain fundamental knowledge of public health principles and epidemiology as related to public health emergencies, health promotion, and illness/injury prevention. Introducing students to comprehensive anatomical and medical terminology and abbreviations will foster the development of effective written and oral communications with colleagues and other health care professionals. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or Achieve the required placement test score

**531-912**
**Paramedic Medical Principles** 4.00

This course address the complex depth of anatomy, physiology, and pathophysiology of major human systems while also introducing the paramedic students to the topics of shock, immunology, and

bleeding. COREQUISITES: 531-911 - EMS Fundamental

**531-913**
**Adv. Patient Asses. Principles**     3.00
This course teaches the paramedic student to integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. By utilizing a structured and organized assessment process with knowledge of anatomy, physiology, pathophysiology, life span development, and changes that occur to the human body with time, the students will learn to develop a list of differential diagnoses through clinical reasoning, along with the ability to modify the assessment as necessary to formulate a treatment plan for their patient. COREQUISITES: 531-911 - EMS Fundamental

**531-914**
**Adv. Pre-Hospital Pharmacology**     3.00
This course provides the paramedic student with the comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the overall health of the patient. COREQUISITES: 531-911 - EMS Fundamental

**531-915**
**Paramedic Respiratory Mgt.**     2.00
This course teaches the paramedic student to integrate complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patent airway, adequate mechanical

ventilation, and respiration for patients of all ages. Specific knowledge pertaining to the respiratory system is also provided to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a patient with a respiratory complaint. COREQUISITES: 531-914 - Adv. Pre-Hospital Pharmacology

**531-916**
**Paramedic Cardiology**     4.00
This course teaches the paramedic student to integrate assessment findings with principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a cardiovascular complaint. PREREQUISITES: 531-915 - Paramedic Respiratory Mgt.

**531-917**
**Paramedic Clinical Field I**     3.00
This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and health care environment experiences with actual patients under the supervision of approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course. COREQUISITES: 531-912 - Paramedic Medical Principles

**531-918**
**Adv. Emergency Resuscitation**     1.00
By teaching Advanced Cardiac Life Support ("ACLS") and Pediatric Advanced Life Support ("PALS") methodologies

and protocols, this course prepares the paramedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest states with an emphasis on early intervention to prevent respiratory and/or cardiac arrest if possible. COREQUISITES: 531-955 - Paramedic Cardiology 1

**531-919**
**Paramedic Medical Emergencies**     4.00
This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a medical complaint. COREQUISITES: 531-955 - Paramedic Cardiology 1

**531-920**
**Paramedic Trauma**     3.00
This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for an acutely injured patient. COREQUISITES: 531-955 - Paramedic Cardiology 1

**531-921**
**Special Patient Populations**     3.00
This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement

a comprehensive treatment plan for patients with special needs. Gynecological emergencies, along with special considerations in trauma are also included within this course. COREQUISITES: 531-955 - Paramedic Cardiology 1

**531-922**
**EMS Operations**     1.00
This course is provides the paramedic student with the knowledge of operational roles and responsibilities to ensure patient, public, and EMS personnel safety. COREQUISITES: 531-955 - Paramedic Cardiology 1

**531-923**
**Paramedic Capstone**     1.00
This course provides the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through labs and scenario-based practice and evaluations prior to taking the National Registry written and practical examinations. Technical skills attainment for each student will be complied and/or documented within this course as required by the DHS-approved paramedic curriculum. COREQUISITES: 531-955 - Paramedic Cardiology 1

**531-924**
**Paramedic Clinical/Field 2**     4.00
This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and health care environment experiences with actual patients under the supervision of approved preceptors. Students may also have the opportunity

to participate in formal high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical and field competency requirements at the paramedic level as defined by DHS. COREQUISITES: 531-955 - Paramedic Cardiology 1

**531-925**
**Paramedic Human Patient**
**Simulation Lab** 4.00

This course reinforces student learning through the practice of paramedicine in a controlled environment utilizing high-fidelity patient simulators and realistic emergency response scenarios with support and guidance of instructors. The student will apply assessment knowledge and demonstrate paramedic level skills in a variety of emergency response scenarios and assessments. COREQUISITES: 531-912 - Paramedic Medical Principles concurrent or previous

**531-926**
**Paramedic Hospital Field** 1.00

This initial course provides the student with the foundation and opportunities to enhance his or her learning through the practice of paramedicine in both prehospital and health care environment with actual patient care experiences under the supervision of approved preceptors. COREQUISITES: 531-912 - Paramedic Medical Principles current or previous

**531-927**
**Paramedic Hospital Field II** 2.00

This course provides the student with the opportunity to enhance his or her learning

through the practice of paramedicine in both prehospital and health care environment with actual patient care experiences under the supervision of approved preceptors. COREQUISITES: 531-955 - Paramedic Cardiology 1 is required

**531-955**
**Paramedic Cardiology 1** 2.00

This course will provide the student with the basic knowledge to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment for the patient with cardiovascular disease. COREQUISITES: 531-915 - Paramedic Respiratory Mgt. with a minimum grade of C or TR

**531-956**
**Paramedic Cardiology 2** 2.00

This course teaches the paramedic student knowledge and skills to integrate assessment findings with principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a variety of cardiovascular complaints. PREREQUISITES: 531-955 - Paramedic Cardiology 1 with a minimum grade of C or TR

**533-100**
**Deafness/Intro to** 2.00

This course is an overview of topics impacting the Deaf/Hard of Hearing communities. It is designed to assist those interested in learning about this diverse population of people.

**533-109**
**Deaf Culture in America** 3.00

This course will expose the students to Deaf culture since its beginnings in the United States. It will discuss famous Deaf Americans and how they have impacted the lives of Deaf and hearing people in America.

**533-125**
**Special Education And, Introduction**
**to Deafness** 3.00

This course is an introduction to the educational process involving a deaf/hard of hearing child and a focus on deafness and how it impacts other aspects of disability.

**533-126**
**American Sign Language 1** 2.00

An introductory course in American Sign Language (ASL) used by the Deaf Community in North America including basic vocabulary, grammar/syntax, finger spelling, and Non-manual signals. Includes practice in vocabulary, sentence structure and elementary conversations. Introduces basic cultural knowledge and history of the Deaf Community.

**533-127**
**American Sign Language 2** 2.00

A continuation of the basic study of American Sign Language and Deaf culture; an opportunity to increase receptive and expressive vocabulary, ASL grammar skills including non-manual aspects such as facial expressions and body language/postures, use of signing space and introduction of conversation regulators. Discussions about sign variations and the socio-political aspects of the Deaf Community. PREREQUISITES: 533-126 - American Sign Language 1

**533-128**
**American Sign Language 3** 2.00

Focuses on extensive development of receptive and expressive communication skills in ASL. Introduces a variety of language forms and aspects of culture as displayed in literature, art and theater. Discusses translations of idiomatic phrases and global perspectives of deafness. PREREQUISITES: 533-127 - American Sign Language 2

**533-129**
**American Sign Language 4** 2.00

Implements an advanced study of the linguistic aspects of ASL. Use of advanced comprehension and production skills in a variety of discourse and narrative settings. Consider the significance of cross-cultural issues/controversies with Hearing Cultures and further analyze the culture and history of the Deaf Community and how it continues to impact the language, socio-political issues, and education of the Deaf in the world. Introduce other signed languages of the world. PREREQUISITES: 533-128 - American Sign Language 3

**533-130**
**Intro to Deaf History** 2.00

This course will cover various aspects of the deaf community including culture, history, and the technology used within the community. This course is ideal for those planning to work within a service occupation, education, or a health-related field.

**533-131**
**ASL for Native Signers** 2.00

This course is for individuals who have grown up using sign language to

communicate with family members. It will cover several linguistic aspects of ASL, historical influences, and cultural implications of being a hearing member of the deaf community.

**536-101**
**Sterile Techniques for Pharmacy Tech**                    **3.00**

Prepares the learner to utilize aseptic technique in preparing parenteral products, compare parenternal solutions and routes, identify equipment used to prepare parenteral products, perform parenternal calculations, prevent parenteral incompatibilities, prepare cytotoxic medications, and apply safe disposal of hazardous products. PREREQUISITES: 536-108 - Pharmacy Services I 536-105; minmum grade C TR;

**536-102**
**Hospital Pharmacy Applications**     **2.00**

In this course, students participate in lab activities to simulate the daily tasks performed by pharmacy technicians in inpatient settings. Students' clinical sites will also be utilized to complete tasks in the second half of the course. Topics will include filling and maintaining drug stock on floors and in the pharmacy, interpreting prescriber orders, labeling patient specific orders, and medication reconciliation. PREREQUISITES: 501-101 - Medical Terminology 536-104 - Pharmacy Benefit Management, 536-105 - Pharmacy Community Clinical, 536-106 - Community Pharmacy Business Applications, 536-110 - Pharmacy Calculations, 536-115 - Pharmacy Law and 536-121 - Fundamentals of Reading Prescriptions with a minimum grade of C or TR

**536-103**
**Pharmacy Hospital Clinical**          **2.00**

In this course, students will have the opportunity to experience the daily activities of a pharmacy technician in a hospital pharmacy setting. Students will learn how medication orders are prepared, processed, and delivered along with maintaining medication inventory in several areas, interacting with other medical staff and following policies and procedures of the hospital and pharmacy. PREREQUISITES: 536-105 - Pharmacy Community Clinical and 536-108 - Pharmacy Services I COREQUISITES: 536-101 - Sterile Techniques for Pharmacy Tech 536-104 - Pharmacy Benefit Management 536-107 - Pharmacy Distribution Systems 536-122 - Pharmacology for Pharmacy Technicians and 536-109 - Pharmacy Services II with minimum grade C

**536-104**
**Pharmacy Benefit Management**     **1.00**

This course prepares the learner to utilize terminology pertinent to third party reimbursements in the field of pharmacy, analyze the various popular fomulary systems, calculate the selling price for a prescription based on the Average Wholesale Price (AWP) and the formula required by the Pharmacy Benefit Manager, analyze the role fo the Pharmacy Benefits Manager in the health care system, and summarize medical coverage provided by government agencies. PREREQUISITES: 536-121 - Fundamentals of Reading Prescriptions with minimum grade C

**536-105**
**Pharmacy Community Clinical**      **2.00**

This course prepares the learner to apply policies and procedures in the pharmacy, complete the ordering process to meet inventory goals, bill third parties for patient prescriptions, process prescriptions, identify medical and surgical supplies for customers, process controlled substance prescriptions, compound extemporaneous products, maintain patient medical histories and fulfill duties in unique service areas. COREQUISITES: 536-105 - Pharmacy Community Clinical

**536-106**
**Community Pharmacy Business Applications**                       **4.00**

The course prepares the learner to summarize pharmacy policies dealing with the Health Insurance Portability and Accountability Act (HIPAA), analyze criminal activities in the pharmacy, assess the operation and location of pharmacy equipment, utilize information posted in the pharmacy, analyze the work culture of the pharmacy, analyze the steps in processing a prescription, analyze patient profile information, analyze issues affecting the practice of pharmacy, market employment skills, analyze patient safety issues, analyze pharmacy front of store operations, analyze methods used to prepare extemporaneous compounds, and analyze customer service issues. PREREQUISITES: 851-756 - Foundations of Writing or 851-760 or appropriate placement test Course 834-109 - Pre-Algebra witha minimum grade of B-must be completed OR the math full college placement test must be at an acceptable level Complete courses 501-107 - Digital Literacy for Healthcare or 103-142 - Basic Computing with a minimum grade C or meet placement test score COREQUISITES: 501-101 - Medical Terminology, 536-104 - Pharmacy Benefit Management, 536-105 - Pharmacy Community Clinical, 536-110 - Pharmacy Calculations, 536-115 - Pharmacy

Law and 536-121 - Fundamentals of Reading Prescriptions

**536-107**
**Pharmacy Distribution Systems**     **1.00**

Prepares the learner to analyze the changes occurring in institutional health care and the consequences for pharmacists and pharmacy tehnicians, analyze the unit dose packaging and distribution system, compare various hospital or nursing home pharmacy administrative and physical designs, compare different distribution systems used in hospital or nursing homes. PREREQUISITES: 536-108 - Pharmacy Services I with minimum grade C and course 536-105 - Pharmacy Community Clinical

**536-108**
**Pharmacy Services I**                    **4.00**

In this course, students simulate, in a lab, the daily tasks performed by pharmacy technicians in outpatient and inpatient settings. Students analyze: prescription processing, patient profile information, pharmacy practice, patient safety, market employment skills, pharmacy front-of-store operations, extemporaneous compound preparation, and customer service. Filling and maintaining drug stock in the inpatient environment are investigated. Students practice interpreting prescriber orders, labeling patient specific orders, and reconciling medication in the inpatient environment. Upon completion of the course, student will be able to perform basic pharmacy technician services. PREREQUISITES: 501-107 - Digital Literacy for Healthcare or 103-142 - Basic Computing or 860-720 - Basic Skills Computer Class or meet placement test Complete course 851-756 - Foundations of Writing or 851-760 or meet placement test scores Complete

coure 834-109 - Pre-Algebra with a minimum grade of B- or the math full college placement test must be at an acceptable level COREQUISITES: 536-110 - Pharmacy Calculations 536-115 - Pharmacy Law 536-121;

**536-109**
**Pharmacy Services II**     **2.00**

In this course, students build on skills developed in Pharmacy Services I. Students simulate tasks in both outpatient and inpatient settings. Upon completion of the course, students will be able to perform the daily tasks of advanced level pharmacy technicians. PREREQUISITES: 536-108 - Pharmacy Services I and 536-105 - Pharmacy Community Clinical

**536-110**
**Pharmacy Calculations**     **3.00**

Prepares the learner to convert weights and volumes between the avoirdupois, the apothecary, and the metric systems of measurement; unitize ratios and proportions; reduce and enlarge pharmaceutical formulas; calculate medication quantities from percent w/w, w/v, v/v, ppm, and ratio concentrations; perform dilution calculations; utilize the "alligation" method; solve problems related to electrolyte solutions; convert temperatures between the Fahrenheit and Celsius scales; convert military and standard time; and calculate individualized patient doses based on body surface area, age, and/or weight of the patient. PREREQUISITES: 834-109 - Pre-Algebra with a minimum grade of B- or math full College placement

**536-112**
**Pharmaceutical Business Applications**     **3.00**

The course prepares the learner to summarize pharmacy policies dealing with the Health Insurance Portability and Accountability Act (HIPAA), analyze criminal activities in the pharmacy, assess the operation and location of pharmacy equipment, utilize information posted in the pharmacy, analyze the work culture of the pharmacy, analyze the steps in processing a prescription, analyze patient profile information, analyze issues affecting the practice of pharmacy, market employment skills, analyze patient safety issues, analyze pharmacy front of store operations, analyze methods used to prepare extemporaneous compounds, and analyze customer service issues. PREREQUISITES: 834-109 - Pre-Algebra COREQUISITES: 536-115 - Pharmacy Law and 536-121- Fundamentals of Reading Prescriptions

**536-115**
**Pharmacy Law**     **2.00**

This course prepares the learner to apply Federal laws to the practice of pharmacy; apply Wisconsin State laws to the practice of pharmacy; select appropriate drug products for substitution in accordance with the law; explain the Investigational New Drug (IND) process; explain pharmacy equipment, license, and floor plan legal requirement; apply controlled substance laws to the procurement, processing, and record keeping of controlled substances; analyze the history of pharmacy law; and summarize drug law enforcement agencies.

**536-120**
**Fundamentals of Reading Prescriptions**     **1.00**

This course prepares the learner to match the brand name and generic name of commonly prescribed medications, determine the pharmacologic classes of commonly prescribed medication, determine the appropriate auxiliary labels to be placed on prescription bottles for commonly prescribed medications, determine if a prescribed medication is a controlled substance and to which schedule it belongs, analyze prescriptions for appropriateness of drug and dosing schedule, and interpret Latin abbreviations used in the practice of Pharmacology. COREQUISITES: 536-112 - Pharmaceutical Business Applications, 536-115 - Pharmacy Law

**536-121**
**Fundamentals of Reading Prescriptions**     **2.00**

This course prepares the learner to match the brand name and generic name of commonly prescribed medications, determine the pharmacologic classes of commonly prescribed medication, determine the appropriate auxiliary labels to be placed on prescription bottles for commonly prescribed medications, determine if a prescribed medication is a controlled substance and to which schedule it belongs, analyze prescriptions for appropriateness of drug and dosing schedule, and interpret Latin abbreviations used in the practice of Pharmacology.

**536-122**
**Pharmacology for Pharmacy Technicians**     **3.00**

The purpose of this course is to provide a comprehensive overview of the principles of pharmacology and pharmacokinetics including the understanding of disease states within each body system and the effects of the medications in treating the conditions. Students will learn the cautions involved in adverse drug effects, food and drug interactions, and drug-disease contraindications. Students are expected to learn the brand and generic drug names from the TOP 200 Drugs List as well as their therapeutic classifications, indications, common strengths, and essential terminology needed to become a successful Pharmacy Technician. PREREQUISITES: 536-108 - Pharmacy Services I minimum grade C and 536-105 - Pharmacy Community Clinical

**536-134**
**Managing Pharmacy Benefits**     **3.00**

This course prepares the learner to utilize terminology pertinent to third party reimbursements in the field of pharmacy, analyze the various popular formulary systems, calculate the selling price for a prescription based on the Average Wholesale Price (AWP) and the formula required by the Pharmacy Benefit Manger, analyze the role of the Pharmacy Benefits Manger in the health care system, and summarize medical coverage provided by government agencies. PREREQUISITES: 536-112 - Pharmaceutical Business Applications, 536-121 - Fundamentals of Reading Prescriptions, 801-301 - Writing Principles, 536-115 - Pharmacy Law with a minimum grade of C or TR COREQUISITES: 536-122 - Pharmacology for Pharmacy

Technicians and 536-110 - Pharmacy Calculations

**536-138**
**Community Pharmacy Clinical        2.00**
This course prepares the learner to apply policies and procedures in the pharmacy, complete the ordering process to meet inventory goals, bill third parties for patient prescriptions, process prescriptions, identify medical and surgical supplies for customers, process controlled substance prescriptions, compound extemporaneous products, maintain patient medical histories, and fulfill duties in unique service areas. PREREQUISITES: 536-112 - Pharmaceutical Business Applications, 536-115 - Pharmacy Law, 536-120 - Fundamentals of Reading Prescriptions, 536-110 - Pharmacy Calculations, 536-134 - Managing Pharmacy Benefits COREQUISITES: 536-134 - Managing Pharmacy Benefits, 536-120 - Fundamentals of Reading Prescriptions, 536-115 - Pharmacy Law

**536-139**
**Community Pharmacy Clinical        3.00**
This course prepares the learner to apply policies and procedures in the pharmacy, complete the ordering process to meet inventory goals, bill third parties for patient prescriptions, process prescriptions, identify medical and surgical supplies for customers, process controlled substance prescriptions, compound extemporaneous products, maintain patient medical histories, and fulfill duties in unique service areas. PREREQUISITES: 501-101 - Medical Terminology, 536-112 - Pharmaceutical Business Applications, 536-115 - Pharmacy Law, 536-121 - Fundamentals of Reading Prescriptions, 536-110 - Pharmacy Calculations, 536-122 - Pharmacology

for Pharmacy Technicians and 536-134 - Managing Pharmacy Benefits with a minimum grade of C or TR COREQUISITES: 536-101 - Sterile Techniques for Pharmacy Tech before or with 536-139 - Community Pharmacy Clinical

**543-101**
**Nursing Fundamentals        2.00**
This course focuses on basic nursing concepts that the beginning nurse will need to provide care to diverse patient populations. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients with alterations in cognition, elimination, comfort, grief/loss, mobility, integument, and fluid/electrolyte balance. PREREQUISITES: 806-177 - General Anatomy and Physiology with a minimum grade of B- COREQUISITES: 801-136 - English Composition 1 with a minimum grade of D

**543-102**
**Nursing Skills        3.00**
This course focuses on development of clinical skills and physical assessment across the lifespan. Content includes mathematic calculations and conversions related to clinical skills, blood pressure assessment, aseptic technique, wound care, oxygen administration, tracheostomy care, suctioning, management of enteral tubes, basic medication administration, glucose testing, enemas, ostomy care, and catheterization. In addition, the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. PREREQUISITES: 806-177 -

General Anatomy and Physiology with a minimum grade of B-

**543-103**
**Nursing Pharmacology        2.00**
This course introduces the principles of pharmacology, including drug classification and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medication. PREREQUISITES: 806-177 - General Anatomy and Physiology with a minimum grade of B-

**543-104**
**Nsg: Intro Clinical Practice        2.00**
This introductory clinical course emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients. Emphasis is placed on performing basic nursing skills, the formulation of nurse-client relationships, communication, data collection, documentation, and medication administration. PREREQUISITES: 806-177 - General Anatomy and Physiology with a minimum grade of B- COREQUISITES: 543-101 - Nursing Fundamentals Complete 543-102 - Nursing Skills Complete 543-103 - Nursing Pharmacology

**543-105**
**Nursing Health Alterations        3.00**
This course elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of clients through the lifespan, utilizing problem solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply therapeutic

nursing interventions. It will also introduce concepts of leadership, team building, and scope of practice. PREREQUISITES: 543-101 - Nursing Fundamentals Complete 543-102 - Nursing Skills Complete 543-103 - Nursing Pharmacology Complete 543-104 - Nsg: Intro Clinical Practice Course 801-136 - English Composition 1 with a minimum grade D;

**543-106**
**Nursing Health Promotion        3.00**
This course will cover topics related to health promotion in the context of the family. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn, and the child. Recognizing the spectrum of healthy families, we will discern patterns associated with adaptive and maladaptive behaviors, applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices. Nutrition, exercise, stress management, empowerment, and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles, and stages of development. PREREQUISITES: 809-188 - Psychology, Developmental Complete 543-101 - Nursing Fundamentals Complete 543-102 - Nursing Skills Coimplete 543-103 - Nursing Pharmacology Complete 543-104 - Nsg: Intro Clinical Practice Course 801-136 - English Composition 1 with a minimum grade D

**543-107**
**Nursing: Clinical Care Across the Lifespan        2.00**
This clinical experience applies nursing concepts and therapeutic interventions to

clients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized. PREREQUISITES: 543-101 - Nursing Fundamentals Complete 543-102 - Nursing Skills Complete 543-103 - Nursing Pharmacology Complete 543-104 - Nsg: Intro Clinical Practice COREQUISITES: 543-106 - Nursing Health Promotion

**543-108**
**Nursing: Introduction to Clinical Care Management** **2.00**

This clinical experience applies nursing concepts and therapeutic nursing interventions to groups of clients. It also provides an introduction to leadership, management, and team building. PREREQUISITES: 543-101 - Nursing Fundamentals Complete 543-102 - Nursing Skills Complete 543-103 - Nursing Pharmacology Complete 543-104 - Nsg: Intro Clinical Practice COREQUISITES: 543-105 - Nursing Health Alterations

**543-109**
**Nursing Complex Health Alterations I** **3.00**

Complex Health Alterations I prepares the learner to expand knowledge from previous courses in caring for clients with alterations in musculoskeletal, cardiovascular, respiratory, endocrine, and hematologic systems, as well as clients with fluid/electrolyte and acid-base imbalances and alterations in comfort. PREREQUISITES: 543-105 - Nursing Health Alterations minimum grade C Complete course 543-106 - Nursing Health Promotion minimum grade C Complete course 543-107 - Nursing: Clinical Care Across the Lifespan minimum grade C Complete

course 543-108 - Nursing: Introduction to Clinical Care Management minimum grade C Complete course 806-179 - Anatomy and Physiology, Advanced minimum grade B- COREQUISITES: 806-197 - Microbiology

**543-110**
**Nursing Mental Health Community Concepts** **2.00**

This course will cover topics related to the delivery of community and mental health care. Specific health needs of individuals, families, and groups will be addressed. Attention will be given to diverse and at-risk populations. Mental health concepts will concentrate on adaptive/ maladaptive behaviors and specific mental health disorders. Community resources will be examined in relation to specific types of support offered to racial, ethnic, economically diverse individuals and groups. PREREQUISITES: 543-105 - Nursing Health Alterations minimum grade C Complete 543-106 - Nursing Health Promotion minimum grade C Complete 543-107 - Nursing: Clinical Care Across the Lifespan minimum grade C Complete 543-108 - Nursing: Introduction to Clinical Care Management minimum grade C Complete 806-179 - Anatomy and Physiology, Advanced minimum grade B- COREQUISITES: 809-198 - Psychology, Introduction to

**543-111**
**Nursing Intermediate Clinical Practice** **3.00**

This intermediate level clinical course develops the RN role when working with clients with complex health care needs. A focus of the course is developing skills needed for managing multiple clients and priorities. Using the nursing process,

students will gain experience in adapting nursing practice to meet the needs of clients with diverse needs and backgrounds. PREREQUISITES: 543-105 - Nursing Health Alterations minimum grade C Complete 543-106 - Nursing Health Promotion minimum grade C Complete 543-107 - Nursing: Clinical Care Across the Lifespan minimum grade C Complete 543-108 - Nursing: Introduction to Clinical Care Management minimum grade C COREQUISITES: 543-109 - Nursing Complex Health Alterations I Complete 543-110 - Nursing Mental Health Community Concepts Complete 543-112 - Nursing Advanced Skills

**543-112**
**Nursing Advanced Skills** **1.00**

This course focuses on the development of advanced clinical skills. Content includes advanced IV skills, blood product administration, chest tube systems, basic EKG interpretation, and nasogastric/feeding tube insertion. PREREQUISITES: 543-105 - Nursing Health Alterations minimum grade C Complete 543-106 - Nursing Health Promotion minimum grade C Complete 543-107 - Nursing: Clinical Care Across the Lifespan minimum grade C Complete 543-108 - Nursing: Introduction to Clinical Care Management minimum grade C Complete 806-179 - Anatomy and Physiology, Advanced minimum grade B-

**543-113**
**Nursing Complex Health Alterations II** **3.00**

Complex Health Alterations II prepares the learner to expand knowledge and skills from previous courses in caring for clients with alterations in the immune, neuro-sensory, musculoskeletal, gastrointestinal,

hepatobiliary, renal/urinary, and reproductive systems. The learn will also focus on management of care for clients with high risk perinatal conditions, high risk newborns, and the ill child. Synthesis and application of previously learned concepts will be evident in the management of clients with critical/ life threatening situations. PREREQUISITES: 543-109 - Nursing Complex Health Alterations I minimum grade C Complete 543-110 - Nursing Mental Health Community Concepts minimum grade C Complete 543-111 - Nursing Intermediate Clinical Practice minimum grade C Complete543-112 - Nursing Advanced Skills minimum grade C Complete 806-197 - Microbiology minimum grade C

**543-114**
**Nursing Management and Professional Concepts** **2.00**

This course covers nursing management and professional issues related to the role of the RN. Emphasis is placed on preparing for the RN practice. PREREQUISITES: 543-109 - Nursing Complex Health Alterations I minimum grade C Complete 543-110 - Nursing Mental Health Community Concepts minimum grade C Complete 543-111 - Nursing Intermediate Clinical Practice minimum grade C Complete 543-112 - Nursing Advanced Skills minimum grade C

**543-115**
**Nursing Advanced Clinical Practice** **3.00**

This advanced clinical course requires the student to integrate concepts from all previous courses in the management of groups of clients facing complex health alterations. Students will have the opportunity to further develop critical thinking skills using the nursing process

in making clinical decisions. Continuity of care through interdisciplinary collaboration is emphasized. PREREQUISITES: 543-109 - Nursing Complex Health Alterations I minimum grade C Complete course 543-110 - Nursing Mental Health Community Concepts minimum grade C Complete course 543-111 - Nursing Intermediate Clinical Practice minimum grade C Complete course 543-112 - Nursing Advanced Skills minimum grade C COREQUISITES: 543-113 - Nursing Complex Health Alterations II Complete course 543-114 - Nursing Management and Professional Concepts

**543-116**
**Nursing Clinical Transition          2.00**
This clinical experience prepares the student to assume the role of graduate nurse. The course promotes clinical decision-making, delegation, and collaboration to achieve client and organizational outcomes. Continued professional development is fostered. PREREQUISITES: 543-109 - Nursing Complex Health Alterations I minimum grade C Complete course 543-110 - Nursing Mental Health Community Concepts minimum grade C Complete course 543-111 - Nursing Intermediate Clinical Practice minimum grade C Complete course 543-112 - Nursing Advanced Skills minimum grade C COREQUISITES: 543-113 - Nursing Complex Health Alterations II Complete course 543-114; Complete course 543-115 - Nursing Advanced Clinical Practice

**543-118**
**Periop Nursing Prof Role and Legal Cons          2.00**
In this course, the student will be introduced to the roles and responsibilities of the peri-operative nurse. Standards of patient care in the operating room are explored and identified. Assessment of patient needs and implementation of nursing interventions are emphasized. Theory includes patient admission, identification of risk factors, nursing process, asepsis, patient safety, documentation and legal considerations. Management and professional concepts will be explored.

**543-119**
**Periop Nursing Surgical Environment          3.00**
Students will learn nursing care of the perioperative patient experiencing routine surgeries including general, ophthalmologic, ears/nose/throat, neurological, cardiovascular, gastrointestinal, gynecological, and orthopedic interventions. Students will explore care of patients receiving fluids, electrolytes, blood products, drugs and anesthesia. Specific surgeries will be reviewed including general, laparoscopic and endoscopic procedures. Disinfection and sterilization will be covered. The learner will demonstrate critical thinking and technical skills in the classroom and simulated laboratory experiences. PREREQUISITES: 543-118 - Periop Nursing Prof Role and Legal Cons with a minimum grade of C or TR

**543-120**
**Periop Nursing Complications and Care          2.00**
In this course, the learner will acquire knowledge in caring for the patient with risk factors and health alterations that have the potential of significantly impacting the health and safety of the patient experiencing surgical procedures. Medical factors include cardio-respiratory, renal, hepatic diseases and alterations in fluids, electrolytes and/ or the auto-immune system. Common complications of surgical procedures will be presented, such as, hypoventilation, oral trauma, cardiac dysrhythmia, peripheral nerve damage, and malignant hyperthermia as well as complications occurring during the recovery period including venous thrombosis, pulmonary embolism, hiccoughs, paralytic ileus, urinary retention and urinary tract infection. Upon completion of the course, the learner will be able to identify risk factorsand potential complications and implement nursing measures to prevent or mitigate long term effects of these occurrences. PREREQUISITES: 543-119 - Periop Nursing Surgical Environment with a minimum grade of C or TR

**543-121**
**Periop Nursing Practicum          3.00**
In this course, the student will be introduced to the roles and responsibilities of the peri-operative nurse. Standards of patient care in the operating room are explored and identified. Assessment of patient needs and implementation of nursing interventions are emphasized. Theory includes patient admission, identification of risk factors, nursing process, asepsis, patient safety, documentation and legal considerations. Management and professional concepts will be explored. PREREQUISITES: 543-120 - Periop Nursing Complications and Care with a minimum grade of C or TR

**543-122**
**Simulation for Healthcare Educators          3.00**
This course prepares educators to integrate human patient simulation into the classroom. Students will learn about the history, evolution, and educational theories of simulation. They will be introduced to modalities of simulation that can be used in healthcare programs to reinforce critical thinking skills in health occupations students in a safe environment. The course will include creation of high fidelity simulations, standardized patient scenarios, and have the opportunity to implement them. Explore concepts including evaluation, debriefing, and future research in simulation. The goal of the course is to promote excellence in simulation education.

**543-123**
**Milit Med Fundamental and Pharm Appl          2.00**
This course focuses on the integration of basic nursing fundamentals and pharmacology nursing concepts to provide evidenced-based care to diverse patient populations across the lifespan. Emphasis is on the use of the components of the nursing process when administering medications.

**543-124**
**Milit Med Skills Theory and Simulation          2.00**
This course provides students with the opportunity while using simulation to demonstrate and perform skills commonly delegated to and within the scope of practice of the Licensed Practical Nurse (LPN) including collecting data and reporting patient responses relative to designated skills; skills include but are not limited to; utilization of the nursing process in collaboration with other health care team members and patient/families to address health care needs of individuals/families across the lifespan; communication both verbal and written; the use of information technology; drug calculation and

administration of medications within the LPN scope of practice.

**543-124A**
**Milit Med Skills Theory and Sim A    1.00**
The course provides students with the opportunity while using simulation to demonstrate and perform skills commonly delegated to and within the scope of practice of the Licensed Practical Nurse (LPN) including collecting data and reporting patient responses relative to designated skills of the neurological, integumentary, and musculoskeletal systems.

**543-124B**
**Milit Med Skills Theory and Sim B    1.00**
This course provides students with the opportunity while using simulation to demonstrate and perform skills commonly delegated to and within the scope of practice of the Licensed Practical Nurse (LPN) including collecting data and reporting patient responses relative to designated skills of the respiratory and cardiovascular systems.

**543-125**
**Trans; Mili Med to Nursing Profession    1.00**
This course is designed to facilitate the transition of military health care veterans into the Professional nurse role. Topics include: introduction to the healthcare delivery system, nursing roles within the healthcare delivery syste, communication and collaboration with other members of the health care team. In addition to the exploration of the nursing process, documentation, safety, legal, ethical issues and information technology. The patient-

needs framework of the curriculum and nursing process will be explored.

**543-126**
**Application of Complex Nursing Concepts    2.00**
This course will prepare the learner, through the application of simulation, to provide care across the lifespan to complex patients with alterations in the cardiovascular, respiratory, endocrine, and hematologic systems, as well as patients with fluid/electrolyte and acid base imbalances, and pain. PREREQUISITES: 543-109 - Nursing Complex Health Alterations I

**543-127**
**Paramedic to ADN Theory 1    3.00**
This course focuses on nursing concepts necessary to provide evidence-based care to diverse patient populations across the lifespan. The nursing process is implemented to relate care of patients throughout the lifespan with alterations in cognition, elimination, comfort, grief/loss, mobility, skill integrity, and fluid/electrolyte balance and related principles of pharmacology. PREREQUISITES: 806-177 - General Anatomy and Physiology with a minimum grade of B-

**543-128**
**Paramedic to ADN Theory 2    3.00**
This course introduces principles of nursing care of the developing family, including reproductive and mental health issues, pregnancy, labor and delivery, post-partum, the newborn, and child. It includes integrated understanding of related pharmacology and study of family dynamics

and grief/loss. PREREQUISITES: 806-177 - General Anatomy and Physiology with a minimum grade C

**543-129**
**Paramedic to ADN Clinical    2.00**
This introductory clinical emphasizes basic nursing skills and application of nursing process to clients and families across the lifespan. Emphasis placed on assessment, relationships, communication, data collection, documentation, and medication administration. COREQUISITES: 543-127 - Paramedic to ADN Theory 1 Complete course 543-128 - Paramedic to ADN Theory 2 Complete course 543-130 - Paramedic to ADN Skills

**543-130**
**Paramedic to ADN Skills    2.00**
This course prepares the student to perform basic nursing skills and physical assessment across the lifespan. It includes medication calculations, aseptic technique, wound care, tracheotomy care, suctioning, management of enteral tubes, medication administration, enemas, ostomy care, and catherization. COREQUISITES: 543-127 - Paramedic to ADN Theory 1 Complete 543-128 - Paramedic to ADN Theory 2

**543-199**
**Clinical Reasoning in Nursing    3.00**
This course introduces basic concepts of critical thinking to the nursing student. Identification of critical thinking skills and common characteristics related to these skills will be applied to the the nursing process. The goal of this course is to enhance clinical reasoning skills through application and practice in human patient

simulation. Students will gain skills in critical thinking to use in everyday life as well as their academic and nursing career. PREREQUISITES: 543-101 - Nursing Fundamentals with a minimum grade of C or TR

**543-300**
**Nursing Assistant    3.00**
The Nursing Assistant course is 120 hours in total and is offered numerous times throughout the district. The course prepares students to perform basic nursing skills in caring for clients in various health care settings. A certificate is awarded upon successful completion of this course and graduates are eligible to competency test for placement on the Wisconsin Nursing Assistant/Home Health Aide Registry.

**543-302**
**Acute Care Nursing Assistant    2.00**
Provides theory and occupational experience in intermediate level nursing assistant skills for employment in hospital and other acute care settings. PREREQUISITES: 543-300 - Nursing Assistant

**550-130**
**Alcohol/Drug Abuse Rehabilitation    3.00**
This course is designed to offer the fundamental knowledge base for the drug and alcoholic field. Emphasis is on pharmacology, dual diagnosis counseling, self-help groups, levels of care, symptom identification and assessments. Through the use of case studies, worksheets and role-play, the student will integrate knowledge and skills in these areas.

**550-138**
**Treating the Teenage Substance
User** **1.00**
This course will examine the unique
challenges of effectively intervening with
teenage substance users. This course will
examine risky teen substance use, with
strategies to prevent and treat teen clients
with AODA issues from a developmental,
family and cultural perspective.

**550-150**
**Psychopharmacology** **3.00**
This course is designed to provide an
overview of the psychopharmacology of
therapeutic drugs, over-the-counter drugs,
illicit drugs, alcohol, nicotine and caffeine.
Emphasis will be on the nervous system
structure, brain function, site of action
theory and on comprehending the effects of
substances on these systems. Interactions,
withdrawal, maternal and fetal effects will be
addressed, as well as terminology and drug
regulations.

**550-154**
**Family and Chemical Abuse** **3.00**
A comprehensive study of the problems
associated with chemical abuse within the
family. Course focus is on the psychological
and physiological trauma as well as methods
of motivation toward recovery.

**550-156**
**Mental Health/Substance Abuse** **3.00**
Diagnose dual disabilities of substance
abuse and mental illness disorders. The
impact of dual disability on assessment and
treatment.

**601-110**
**Air Conditioning Fundamentals** **3.00**
Topics covered include air conditioning
principles and terms, physical principles
of air movement and humidity, methods
of conditioning air for comfort and health,
the proper use of psychrometers, dry bulb
thermometers, hygrometers, pilot tubes,
recorders, manometers and barometers
and the reading and interpretation of
psychometric charts and scales.

**601-111**
**Workplace Fundamentals** **1.00**
This course will introduce the student to the
diverse mechanical skills required in today's
workplace environment. The student will
demonstrate, through practical hands-on lab
exercises, skills in complying with Lock-out/
Tag-out procedures and the proper care
and use of common hand and power tools.
General drilling, tapping, threading, and
aligning will all be covered. The student will
also be required to use test instruments to
gather data on length, volume, area, depth,
and dimensions and use electrical meters on
power circuits. COREQUISITES: 804-370 -
Mathematics I/Applied

**601-112**
**Environmental Systems** **2.00**
This course will introduce the student to
the maintenance and repair of HVAC/R
equipment encountered in the workplace.
Basic theory of heating, air conditioning,
and refrigeration will be covered; emphasis
will be placed on preventative maintenance.
The student will apply theory in lab exercises
demonstrating competency with general
repair and the use of temperature and
electrical meters, recording data, and
performing adjustments to keep equipment

at peak efficiency. COREQUISITES: 601-111
- Workplace Fundamentals and 801-301 -
Writing Principles

**601-113**
**Facility Operating Engineer LP** **5.00**
This lecture format course will introduce the
student to the fundamentals of obtaining
the Facility Operating Engineer 3rd Class
certification. Principles of thermodynamics,
boiler classification, construction, fuels,
rating and efficiency, and firing methods will
be covered.

**601-114**
**Power Plant Operating Engineer** **4.00**
This lecture/lab format course will introduce
the student to the fundamentals of obtaining
the Power Plant Operating Engineer 3rd
Class certification. Topics will include
heat energy transfer, steam generators,
boiler construction, and codes and fuel
firing. PREREQUISITES: 601-117 - Facility
Operating Engineer HP

**601-116**
**Mechanical Fundamentals** **3.00**
Topics covered include learning the various
types of piping and tubing used in air
conditioning and refrigeration, types of
fittings, bending, brazing and soft soldering
tubing, black iron pipe work, sheet metal
fundamentals, using hand tools, and
the recognition and practice of safety
procedures while working on air conditioning
and refrigeration systems.

**601-117**
**Facility Operating Engineer HP** **3.00**
In this course, advanced boiler operation
and maintenance of mechanical heating and
cooling systems will be discussed. Students
will learn to understand the operations of
ventilation system equipment, controls, heat
exchangers, air compressors, AC and DC
motors, and turbines. PREREQUISITES:
601-113 - Facility Operating Engineer LP

**601-121**
**Heating Systems** **3.00**
Topics in this course include introduction to
heat principles, temperature measurement,
fuels and other sources of heat, combustion,
basic heating systems, basic furnace design,
gas furnace design and operation, venting
of furnaces, chimney or exhaust gases and
system controls. PREREQUISITES: 601-110
- Air Conditioning Fundamentals

**601-122**
**Building Performance Instrument
Cert** **3.00**
This course will focus on certification based
activities utilizing BPI equipment will provide
the participant with the skills needed to
correctly analyze HVAC and R equipment,
assess indoor air quality and perform
correct combustion set up and analysis.
PREREQUISITES: 601-121 - Heating
Systems with a minimum grade of C or TR

**601-128**
**Electrical Controls and Systems** **3.00**
Topics in this course include basic electricity
review, control circuits, three phase motors,
single phase motors, solid state devices,
control components and troubleshooting
using control schematics and solid state

controls. PREREQUISITES: 605-107 - Fundamentals of Electricity/Electronics

**601-129**
**HVAC Systems** 3.00

Topics include the installation and proper startup procedures of residential HVAC systems. Areas covered will be the installation of forced air heating equipment with a focus on the sheet metal, gas piping, venting and electrical hookups necessary to meet all code requirements. Also covered will be the installation of refrigerant lines, evaporator coils, and placement of the condensing unit. Students will leak check, evacuate and perform startup checks verifying superheat, subcooling, airflow and other vital parameters. PREREQUISITES: 601-110 - Air Conditioning Fundamentals and 601-116 - Mechanical Fundamentals

**601-130**
**HVAC Blueprint Reading** 2.00

Topics include blueprint reading, locating, interpreting and utilizing state building codes; understanding, interpreting and utilizing architectural working drawings.

**601-131**
**Heating Systems Applications** 3.00

Topics include installation and service of heating and humidifying systems, including steam and hydronic heat distribution systems, heat pumps and complete air conditioning systems and heat recovery systems. PREREQUISITES: 601-121 - Heating Systems

**601-133**
**Refrigeration Fundamentals** 3.00

Topics include refrigeration principles and terms, thermodynamic processes, refrigerants, vapor compression cycles, mechanical refrigeration system components, use of electrical controls, refrigeration applications and refrigeration tools and materials.

**601-143**
**Refrigeration Applications** 3.00

Topics include commercial refrigeration systems, applications, installation, servicing, troubleshooting, heat loads and piping, absorption systems and special refrigeration systems. PREREQUISITES: 601-110 - Air Conditioning Fundamentals, 601-116 - Mechanical Fundamentals, and 601-133 - Refrigeration Fundamentals

**601-145**
**Electronic Energy Management** 3.00

Topics include an introduction to the role of computers in the heating, ventilation and air conditioning industry, microcomputer systems and applications, programming and direct digital control (DDC). PREREQUISITES: 601-147 - Control Circuit Applications and 103-143 - Computers for Professionals

**601-147**
**Control Circuit Applications** 3.00

Topics include an introduction to control circuit terminology, measuring devices and control systems. The principles of self-contained, pneumatic and electronic-electric controls are examined and applied to control systems operation and design.

PREREQUISITES: 601-128 - Electrical Controls and Systems

**601-148**
**HVAC Electrical Troubleshooting and Repair** 3.00

This course is designed for the advanced student who has already completed the theoretical and basic hands-on classes. In this class the student will be responsible for troubleshooting and repairing a variety of HVAC/R equipment in both lab exercises and computer simulated activities. The student will be required to diagnose the faulty equipment, select the proper replacement parts, return the equipment to a working condition and for preparing a detailed work order listing all work performed. PREREQUISITES: 601-147 - Control Circuit Applications and 103-143 - Computers for Professionals

**601-149**
**Heat Load Estimation** 2.00

This course will teach how to use Manual J from ACCA. Students will develop the skills to do residential heating and cooling heat loads. Students will calculate not only heat loss but also losses or gains due to infiltration, sun loads, etc. Students will do calculations on actual buildings in both long hand and using Right J, the computer software for Manual J. Students will also be responsible for developing recommendations for lowering heat loss by pricing energy upgrades such as insulation, window improvement, etc., and calculating payback and fuel savings.

**601-156**
**Manual D Duct Design** 2.00

The student will use Manual D from ACCA to design ductwork to meet static and velocity requirements. The student will learn to calculate run lengths, pressure drop through fittings, and system components for supply and return ductwork.

**601-157**
**Radiant Floor Heating** 2.00

The students will learn to design radiant floor systems for residential construction. They will select components, lay out hardware, and estimate piping lengths to meet load requirements.

**601-171**
**Heating III** 2.00

This advanced course is for students who want to add residential/light commercial hot water boiler service and installation to their HVAC skills. This course covers cast iron sectional and copper finned boiler configuration, operation, and maintenance. The course will also cover common control schemes, boiler safety devices, and near boiler piping concerns. PREREQUISITES: 601-121 - Heating Systems

**601-176**
**Codes I** 2.00

This advanced level course will assist workers in understanding and following the National Fuel Gas Code.

**601-301**
**Basic Electricity and Circuits** 2.00

This introductory course covers electrical safety, the concepts of ohms, amps and

volts as related to appliances. Series parallel and combination circuits are covered. The use of test instruments to properly measure electrical paramenters of motors, transformers, control devices and safeties are stressed.

**601-302**
**Gas Appliance Control Systems** **2.00**

This advanced course introduces the student to the common operational controls and safeties found on gas appliances in use today in a residential environment. Understanding sequence of operation, common troubleshooting techniques and testing to identify faulty components in practical lab exercises are stressed in this class. PREREQUISITES: 601-301 - Basic Electricity and Circuits and 469-302 - Site Safety with a minimum grade of C or TR

**601-304**
**Electricity and Electronics for HVAC 3.00**

In this course, students explore electrical principles and theory. Using standard testing equipment, students measure and troubleshoot equipment. Students practice wiring and installing a variety of electrical devices and systems. Upon completion of the course, students will be able to install, troubleshoot, and repair electrical components of air-conditioning, heating, and refrigeration systems. COREQUISITES: 601-128 - Electrical Controls and Systems

**601-501**
**Refrigeration Fundamentals**
**Apprentice** **1.00**

Topics include refrigeration principles and terms, thermodynamic processes, refrigerants, vapor compression cycles,

mechanical refrigeration system components, use of electrical controls, refrigeration applications, and refrigeration tools and materials.

**601-503**
**Steam and Water Boilers** **1.00**

Students will learn to recognize how various types of boilers are constructed and what operating and safety controls are required for operation.

**602-103**
**Engine Repair 1** **2.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair internal combustion engines. Emphasis is placed on in-vehicle repairs including engine cooling and lubrication systems. PREREQUISITES: 602-107 - Auto Service Fundamentals and 602-122 - Auto IT for Transportation

**602-104**
**Brake Systems** **3.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair vehicle braking systems with an introduction to ABS. (ABS diagnosis, service and repair will be addressed in the Advanced Chassis course.) PREREQUISITES: 602-107 - Auto Service Fundamentals and 602-130 - Auto Shop Essentials

**602-107**
**Auto Service Fundamentals** **2.00**

This automotive course focuses on developing skills in professionalism, safety and the use of basic hand and power tools

in accordance with industry standards. Students are introduced to the automotive service industry and learn to use both comprehensive and manufacturer's service information to perform basic under-hood and under-car services. PREREQUISITES: 602-130 - Auto Shop Essentials

**602-109**
**Auto Transmission/Transaxle** **4.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair automatic transmission/ transaxles including overhaul procedures. PREREQUISITES: 602-127 - Electrical and Electronic Systems 2

**602-120**
**Auto Service Simulation** **2.00**

In this course, students use acquired skils to analyze, diagnose, and repair: engines and engines subsystems; braking systems; steering and suspension systems; electrical/electronic systems; heating, ventilation and air conditioning; and engine performance. Students work in a simulated shop environment under the direction of Gateway's instructors. Upon completion of the course, students will apply diagnostic strategy to repair vehicle systems. PREREQUISITES: 602-104 - Brake Systems 602-124 - Steering and Suspension Systems 602-129 - Auto Scope and Scanner Diagnostics 602-205 - Engine Repair II 602-128 - Electrical and Electronic Systems 3 602-196 - Climate Control Systems and 602-198 - Engine Performance 2

**602-121**
**Auto Instrumentation and Testing** **4.00**

This course will develop the individual and technical skills required to perform advanced

automotive diagnostics. Analytical skills will be developed and practiced to enable the technician to develop troubleshooting techniques. The basic theory and operation of diagnostic test equipment such as lab scopes and scan tools, will be covered including their application in the performance of field diagnostics. PREREQUISITES: 602-197 - Engine Performance 1

**602-122**
**Auto IT for Transportation** **2.00**

The Automotive Technology Program at Gateway Technical College is unique because it is a paperless environment. Throughout the program we use software packages that the student needs training on before entering any of the core courses. Students will use Open Office; they will be trained and become proficient in all of the different online Learning Management systems we utilize, along with Blackboard and its features. Students will learn the WI state regulation ATCP 132 Motor Vehicle Repair and the proper method for filling out computer generated repair orders. Students will learn how to access electronic service information systems such as ShopKey Pro and Alldata. Students will also be introduced into the "Hands on" environment of the Auto Lab in preparation for the upcoming courses and will have the opportunity to gainIndustry recognized certifications in areas such as; Torque and Precision Measuring.

**602-123**
**Engine Repair 2** **3.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair internal combustion engines. Emphasis is placed on out-of-vehicle engine repair including overhaul procedures. PREREQUISITES: 602-103 -

Engine Repair 1 COREQUISITES: 801-197 - Technical Reporting

**602-124**

**Steering and Suspension Systems    3.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair steering and suspension systems including wheel alignment procedures. PREREQUISITES: 602-107 - Auto Service Fundamentals and 602-130 - Auto Shop Essentials

**602-125**

**Electrical and Electronic Systems 1   2.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair electrical and electronic systems. Learners apply Ohm's Law to basic electrical circuit diagnosis. PREREQUISITES: 602-107 - Auto Service Fundamentals and 602-130 - Auto Shop Essentials COREQUISITES: 804-135 - Quantitative Reasoning

**602-127**

**Electrical and Electronic Systems 2   3.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair electrical and electronic systems, including batteries, starting, charging, and lighting systems, and computer control systems. PREREQUISITES: 602-125 - Electrical and Electronic Systems 1 COREQUISITES: 801-136 - English Composition 1

**602-128**

**Electrical and Electronic Systems 3   3.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair electrical and electronic systems including driver information, horn, wiper/washer, power accessories, cruise control, air bag, anti-theft and radio systems. PREREQUISITES: 602-127 - Electrical and Electronic Systems 2

**602-129**

**Auto Scope and Scanner Diagnostics                    3.00**

In this course students will learn the general theory, operation and applications of diagnostic systems. OBD scan tools, graphing multi-meters, Digital Storage Oscilloscopes and Exhaust Gas Analyzers will be used to collect vehicle data and diagnose common system failures in late model vehicles. Upon completion of this course learners will be able to utilize OEM and aftermarket diagnostic equipment to scan, diagnose and repair some of the most complex systems on today's vehicles. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized. PREREQUISITES: 602-197 - Engine Performance 1

**602-130**

**Auto Shop Essentials                    3.00**

In this course, students explore the automotive service environment. Students will examine automated, web-based information systems used by automotive service professionals including: Wisconsin Chapter ATCP 132 Motor Vehicle Repair, computer-generated repair orders, and Electronic Service Information Systems such as ShopKey and ALLDATAT. Students practice using the automated tool control

system, and, through observation of automotive service employers and the Gateway Auto Lab, develop an awareness of how automotive service work is performed. Upon successful completion of the course, students will be able to work safely in an automotive shop environment and navigate automated, web-based information systems, and they will have gained the knowledge to earn industry-recognized torque and precision measuring certifications through NC3.

**602-131**

**Automotive Service                    2.00**

In this course, students use acquired skills to analyze, diagnose, and repair: engines and engine subsystems; braking systems; steering and suspension systems; electrical/electronic systems; heating, ventilation and air conditioning; and engine performance. Students work in a shop environment under the direction of a master technician. Upon completion of the course, students will apply diagnostic strategy to repair vehicle systems. PREREQUISITES: 602-104 - Brake Systems 602-129 - Auto Scope and Scanner Diagnostics 602-205 - Engine Repair II 602-124 - Steering and Suspension Systems 602-128 - Electrical and Electronic Systems 3 602-196 - Climate Control Systems and 602-198 - Engine Performance 2

**602-149**

**Manual Drive Train and Axles          4.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair clutches, manual transmissions/transaxle, differentials, four wheel drive/all wheel drive, and drive axles. PREREQUISITES: 602-107 - Auto Service Fundamentals and 602-130 - Auto Shop Essentials

**602-195**

**Advanced Chassis Systems             2.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair antilock brake, vehicle stability enhancement, and electronic steering and suspension systems. PREREQUISITES: 602-104 - Brake Systems, 602-124 - Steering and Suspension Systems, and 602-127 - Electrical and Electronic Systems 2 COREQUISITES: 801-136 - English Composition 1

**602-196**

**Climate Control Systems               3.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair climate control systems including heating, cooling, and air distribution. Upon successful completion of the Mobile Refrigerant Handling unit (ATCP-136), a state certificate will be issued. PREREQUISITES: 602-127 - Electrical and Electronic Systems 2

**602-197**

**Engine Performance 1                  3.00**

This automotive course focuses on developing the skills needed to diagnose, service and repair powertrain control and ignition systems. Emphasis is placed on diagnostic procedures and the problem-solving techniques associated with automotive engine performance and drivability. PREREQUISITES: 602-204 - Engine Repair I 602-127 - Electrical and Electronic Systems 2 804-135 - Quantitative Reasoning and 801-136 - English Composition 1

**602-198**
**Engine Performance 2** 4.00

This automotive course focuses on developing the skills needed to diagnose, service and repair fuel and emission control systems. Emphasis is placed on diagnostic procedures and the problem-solving techniques associated with automotive engine performance and drivability. PREREQUISITES: 602-197 - Engine Performance 1

**602-204**
**Engine Repair I** 3.00

This automotive course focuses on developing the skills needed to service and repair internal combustion engines. Emphasis is placed on out-of-vehicle engine repair including overhaul procedures. PREREQUISITES: 602-107 - Auto Service Fundamentals and 602-130 - Auto Shop Essentials

**602-205**
**Engine Repair II** 2.00

This automotive course focuses on developing the skills needed to diagnose, service and repair internal combustion engines. Emphasis is placed on in-vehicle diagnosis and repairs including valve timing, engine cooling and lubrication systems. PREREQUISITES: 602-204 - Engine Repair I

**605-107**
**Fundamentals of Electricity/ Electronics** 3.00

This course studies the behavior of electricity in terms of voltage, amperage, resistance, and impedance in various circuits. Lab instruction will include the application and usage of measuring and troubleshooting equipment.

**605-108**
**Introduction to Electronics and Eng** 5.00

The participants will utilize theoretical analysis, supported by practical hands-on experiments to explore the foundational principles of DC, AC, and Digital Electronics. These principles will be used in the analysis of both analog and digital electronic circuits. In addition, a student design project will provide a practical approach to investigate the Engineering Design process. Upon completion of this course, participants will have the background necessary to successfully teach an introductory course in DC, AC and Digital electronics, along with basic Engineering Design Principles.

**605-109**
**Fabrication Techniques** 1.00

Emphasis is on the use of hand tools, soldering, shearing, forming, punching, chassis construction. Students construct a project in a hands-on situation.

**605-113**
**DC/AC I** 3.00

This introductory course presents the scientific foundation used throughout electronics technology. Topics include DC/AC forms of current, voltage, resistance, capacitance, inductance, and power. Troubleshooting practices will be emphasized and computer technologies will be used to enhance abstract theory. Students perform laboratory experiments and prepare technical reports.

**605-114**
**DC/AC II** 3.00

An extension of and enhancement to DC/ AC I. More advanced topics, such as complex networks, applicable theorems, polyphase systems, and passive filters, will be discussed. Computer simulation software will be used to reinforce theoretical analyses. PREREQUISITES: 605-113 - DC/ AC I COREQUISITES: 804-115 - College Technical Math 1

**605-120**
**Electronic Devices I** 4.00

The basic operating principles of diodes, transistors, and linear ICs are presented as they are used in rectifier, amplifier, and oscillator circuits. Lecture theory is reinforced with laboratory assembly, measurements, troubleshooting, and technical report writing. PREREQUISITES: 605-113 - DC/AC I

**605-121**
**Electronic Devices II** 4.00

Introduction to unipolar transistors, JFETs, and MOSFETs being used in linear and nonlinear circuits. Students will use high frequency analysis with both bipolar and unipolar transistors. Operational amplifiers are used as linear amplifiers and in nonlinear circuits. Some circuits covered include voltage amplifiers, summing amplifiers, instrumentation amplifiers, active filters and oscillators. PREREQUISITES: 605-120 - Electronic Devices I

**605-130**
**Digital Electronics** 4.00

Analysis of digital electronic circuits. Realization of logic gates, using TTL and CMOS devices. Verification of theory is accomplished through laboratory experiments with small and medium scale integrated circuits.

**605-133**
**Industrial Data Communications** 3.00

This course introduces students to the latest technologies in industrial data communications with a focus on digital and analog signaling. Topics include topology, the principles of signaling on physical links, transmission media, data formatting, A-to-D conversion, multiplexing, modulation using digital data, error control, flow control and protocols. Special attention will be given to practical troubleshooting and problem solving of industrial data communications. PREREQUISITES: 605-113 - DC/AC I or 605-107 - Fundamentals of Electricity/Electronics with a minimum grade of C or TR

**605-134**
**Telecommunications Installer Operation** 4.00

This course is actual run time in the lab and field for hands-on telecommunication installation work. Students will work in groups and as individuals to gain experience in real and simulated telecommunications installations. Students bring together all of the theories and skills learned in the other classes and apply them to the installation process. COREQUISITES: 605-166 - Telecom Safety and Installation and 605-197 - Telecom Fire Stopping

**605-136**
**Programmable Controller System Design** 3.00

This course introduces the student to the design and implementation of an automated

process controlled by a Programmable Logic Controller. PREREQUISITES: 605-130 - Digital Electronics with a minimum grade of C or TR

**605-138**
**Circuit Construction and Repair    3.00**

Students will learn and apply the skills for the safe use of hand tools, soldering, desoldering, copper and fiber termination. These skills will be demonstrated in the construction of electronics based projects.

**605-150**
**Industrial Electronics    3.00**

Covers industrial electrical control using motor starters, relays, pushbuttons, as well as variable speed control of DC motors and power distribution for industry. PREREQUISITES: 605-114 - DC/AC II and 605-120 - Electronic Devices I

**605-151**
**Electronic Communications    3.00**

An introduction course in analog communication systems. Topics covered are AM/FM/SSBX microwave and laser transmission and reception. Theory is covered in block diagram level with additional theory and labs on representative circuits from the major blocks of a communication system. PREREQUISITES: 605-114 - DC/AC II and 605-120 - Electronic Devices I

**605-156**
**Distribution Equipment and Cabling Systems    1.00**

The Distribution Equipment and Cabling Systems class teaches basic concepts

of telecommunications equipment and cabling installation. These skills, abilities, and knowledge are beneficial for a student seeking employment in the telecommunications cabling field. This class meets some of the requirements for the proposed ETA-1 Telecommunications CET certification test.

**605-159**
**Fiber Optics Theory and Testing    1.00**

The Fiber Optics Theory and Testing class teaches basic concepts of fiber optics installation and service. These skills, abilities, and knowledge are beneficial for a student seeking employment in the telecommunications cabling field. This class meets some of the hands-on requirement for the ETA-1 Certified Fiber Optic Installer (CFOI) test.

**605-166**
**Telecom Safety and Installation    3.00**

The Safety and Installation class teaches the importance of safety, and safe practices and procedures. The course teaches basic concepts of telecommunications equipment and cabling installation and other skills needed in the telecommunication field. Students will have the opportunity to earn a Fire Stopping and a Copper Certification. This class meets some of the requirements for the ETA-I Residential Electronics Systems Installer (RESI) and Certified Data Cabling Installer Certification (DCIC). It also prepares students for BICSI Installer Level 1 Certification exam. These skills, abilities and knowledge, are beneficial for a student seeking employment in the telecommunications cabling field.

**605-166A**
**Telecom Safety    1.00**

The Safety and Installation class teaches the importance of safety, and safe practices and procedures. These skills, abilities and knowledge, are beneficial for a student seeking employment in the telecommunications cabling field. Includes: Snap-On Hand Tool Safety, Snap-On Electrical Tool Safety , and Werner Ladder Safety training.

**605-166B**
**Telecom Basic Equipment    1.00**

The course teaches basic concepts of telecommunications equipment and cabling installation and other skills needed in the telecommunication field. These skills, abilities and knowledge, are beneficial for a student seeking employment in the telecommunications cabling field. Includes: Greeenlee NC3 VDV and Belden IBDN726 Copper training.

**605-166C**
**Telecom Installation Concepts    1.00**

The course teaches basic concepts of telecommunications installation, termination, and testing, along with other skills needed in the telecommunication field. These skills, abilities and knowledge, are beneficial for a student seeking employment in the telecommunications cabling field. Includes: Belden IBDN746 Fiber and troubleshooting.

**605-174**
**Digital Circuits II    3.00**

A study of the TTL logic family characteristics, CMOS series characteristics, MSI logic circuits, interfacing with the analog world and memory devices.

PREREQUISITES: 605-130 - Digital Electronics

**605-176**
**Optoelectronics    2.00**

The study of the integration of electronics, optics and light to control electromechanical or electronics operations. Topics include optical concepts, light sources, laser, fiber optics, photometry, radiometry and optoelectronic applications. PREREQUISITES: 605-114 - DC/AC II and 605-120 - Electronic Devices I

**605-183**
**Electronics/Future Trends in    3.00**

This course will study the future trends in the electronics field. Topics covered are communications, controls, manufacturing, and newly developed technologies. Students will complete a project.

**605-190**
**Microprocessors    4.00**

An introduction to microcomputer programming. Digital codes, registers, and register instruction, logic gates and truth tables are covered. The 7400 series of integrated circuit chips are studied. COREQUISITES: 605-114 - DC/AC II 605-121 - Electronic Devices II and 801-197 - Technical Reporting

**605-197**
**Telecom Fire Stopping    2.00**

The Fire Stopping class teaches the importance of fire stopping and fire safety procedures. This course teaches basic concepts of fire stopping and cabling installation.

**605-197A**
**Telecom Firestopping I1.00**

This Fire Stopping class teaches basic concepts of fire and fire stopping for commercial buildings.

**605-197B**
**Telecom Firestopping II** 1.00

This Fire Stopping class teaches the selection and installation of fire stopping systems for commercial cabling installations.

**606-102**
**Mechanical Systems Design** 3.00

Students will create mechanical designs and CAD models to develop an efficient and effective manufacturing process. After developing the manufacturing process, students will utilize skills such as statics, strength of materials, and mechanisms to determine loads to evaluate the design and determine if it will function as planned. Using elements of machine design, students will then specify specific machine components to be used to build the manufacturing process system. These components will be incorporated into the design and the students will then mockup and test the manufacturing process system. The students will evaluate the viability of the manufacturing process after buildings and testing of the manufacturing process system. PREREQUISITES: 605-136 - Programmable Controller System Design

**606-103**
**Material Properties** 2.00

Students in this course learn and apply the mechanical strength, chemistry, and material basic characteristic properties, for materials including; metals, plastics, composites,

nano-technolgies, powered metals, and non-metals. Students will have a basic understanding of how to select materials that fit the engineering product design requirements.

**606-111**
**Blueprint Reading** 2.00

Blueprint reading covers the interpretation of engineering drawings from a basic level to more complex topics. Topics covered include third-angle orthographic projection, sections, dimensioning, types of lines, auxiliary views, the title block and symbols. Lecture will be supplemented by individual class exercises to provide actual practice for participants.

**606-116**
**Machine Design/Elements of** 3.00

Procedures and consideration in design of simple machine elements such as shafts, bearings, couplings, keys, pins, springs, clutches, brakes, and pressure cylinders. Emphasis on neat, orderly procedure and a thorough consideration of design specifications. PREREQUISITES: 606-151 - Statics

**606-118**
**Mechanisms** 2.00

Kinematics of machinery, displacement, velocity and acceleration, analysis of linkages, cams and gears, geometry of involute gears, properties of standard spur, helical, bevel, and planetary gears. Practical problems develop an understanding of principles. PREREQUISITES: 606-151 - Statics and 606-152 - Engineering Graphics w/CAD 1

**606-119**
**Motor Controls** 3.00

This course provides a practical approach to motor control of various machines for non-electrical or electronic technicians. It discusses electrical and mechanical components and how they are connected together to control different types of motors. Many different types of control circuits are discussed.

**606-121**
**Blueprint/Schematic Interpretation** 2.00

This course will focus on providing the knowledge needed by maintenance professionals to extract information from blueprints and schematics. Sketching parts and drawing schematic circuits will also be explored. PREREQUISITES: 834-110 - Elementary Algebra with Applications

**606-122**
**Geometric Dimensioning and Tolerancing** 2.00

Stresses the interpretation of geometric tolerances applying the five categories of feature control: form, orientation, runout, profile and position. Various inspection techniques, datum construction, feature control frames and material condition modifiers; least material condition, maximum material condition and regardless of feature size will be studied.

**606-126**
**AutoCAD, Introduction** 2.00

This course is an introductory course in the latest version of AutoCAD. No prior CAD or drafting experience is necessary. While it would be helpful to have some knowledge of computers, geometry, and design

problems, this too is not necessary. This course is designed for students that have had no or very little exposure to CAD. Upon the successful completion of all assigned work in this course, a student should have an understanding of how to create basic geometric shapes and drawings as well as applying dimensions using AutoCAD software. While drawings will be created in this class, drafting is not taught. This course deals strictly with the basic use of AutoCAD software.

**606-127**
**CAD Intermediate** 2.00

In this course, students will use advanced CAD dimensioning concepts and edit and modify various types of entities, such as dimensions, hatch patterns, and text. Use of grips, attributes, and Xrefs, menu customization, and profiles are covered. PREREQUISITES: 606-126 - AutoCAD, Introduction

**606-128**
**CAD - Solidworks** 2.00

Students use Solidworks software to create solid models of various machine components. They also convert solid parts into conventional 2-D orthographic drawings which include sections, auxiliary views, and dimensions. Students create assembly drawings and configurations of various parts.

**606-129**
**CAD/Solids Advanced** 2.00

A continuation of the basic solids class that includes assembly drawings, exploded isometric drawings, customization, sheet metal drawings, import/export functions, thin features, and the use of Microsoft

Office features to increase productivity. PREREQUISITES: 606-128 - CAD - Solidworks

**606-130**
**SolidEdge, Introduction**          2.00

In this course, students learn to use SolidEdge software to create solid models of various machine components, convert solid parts into conventional 2-D orthographic drawings, create section and auxiliary views with applied dimensions of various components, and create assembly drawings of various parts.

**606-131**
**Strength of Materials**          3.00

Internal stresses and deformation of elastic bodies resulting from external forces. Tables of properties of engineering materials are used. Analysis of simple and combined stresses relative to the properties of the materials to meet functional requirements. PREREQUISITES: 606-151 - Statics and 806-154 - General Physics 1

**606-136**
**Manufacturing Materials**          1.00

The study of the properties of engineering materials in regards to strength, chemistry, and basic characteristics of both metals and non-metals.

**606-137**
**Manufacturing Process Applications**          2.00

Students spend part of the course in the Machine Shop learning basic lathe, mill, drill press, and grinder operations as well

as layout. Part of the course is taught in the welding lab where students learn the operations of gas and arc welding. PREREQUISITES: 606-159 - Manufacturing Processes with minimum grade D

**606-138**
**Design Problems**          2.00

In this course, students diagram ideas, gather data, calculate project and process capabilities, and analyze problems in a project-based environment. Students initiate projects using mechanical design and manufacturing technology skills. Upon completion of the course, students will be able to judge the feasibility of a mechanical design or manufacturing process. PREREQUISITES: 801-136 - English Composition 1 with a minimum grade D

**606-139**
**AutoCAD Inventor, Introduction**          2.00

In this course, students use AutoCAD Inventor software to create solid models of various machine components, convert solid parts into conventional 2-D orthographic drawings, create section and auxillary views with applied dimensions of various components, and create assembly drawings of various parts.

**606-141**
**AutoCAD Mech Design Technician**   3.00

This course is an introductory course in the latest version of AutoCAD. No prior CAD or drafting experience is necessary. While it would be helpful to have some knowledge of computers, geometry, and design problems, this too is not necessary. This course is designed for students that have had no or very little exposure to CAD. Upon

the successful completion of all assigned work in this course, a student should have an understanding of how to create basic geometric shapes and drawings as well as applying dimensions using AutoCAD software. Students will use advanced CAD dimensioning concepts and edit and modify various types of entities, such as dimensions, hatch patterns, and text and output to paper views and drawings. Use of grips, attributes, and Xrefs, menu customization, and profiles are covered. While drawing will be created in this class, drafting is not taught. This course deals strictly with the basic use of AutoCAD software.

**606-142**
**Intro to Creo/ProEngineer**          2.00

In this course, students use Pro-E software to create solid models of various machine components, convert solid parts into conventional 2-D othographic drawings, create section and auxilliary views with applied dimensions of various components, and create assembly drawings of various parts.

**606-149**
**Mechanical Engineering, Introduction to Tech**          2.00

This course will instruct the student in manual drafting techniques; however, most of the material may be completed using CAD. It is designed to develop knowledge and basic mechanical drafting skills. Upon completion of this course, the student will have developed skills in the use of drafting tools, lettering, geometric construction, orthographic projection, sketching, visualization, dimensioning, and basic tolerancing. COREQUISITES: 606-128 - CAD - Solidworks

**606-151**
**Statics**          3.00

Study of forces in equilibrium; types of forces, couples, vector and scalar quantities, force systems, friction, centroids, centers of gravity, moments of inertia of areas. PREREQUISITES: 804-114 or 804-115 - College Technical Math 1

**606-152**
**Engineering Graphics w/CAD 1**          2.00

Advanced concepts of topics from Intro to MET are covered as well as several new topics. Lab assignments are done on a CAD workstation. Topics covered include drawing primary and secondary auxillary views, sections, threads and fasteners, and creating drawings of weldments. PREREQUISITES: 606-128 - CAD - Solidworks 606-149 - Mechanical Engineering, Introduction to Tech

**606-153**
**Engineering Graphics w/CAD 2**          2.00

Advanced concepts from Engineering Graphics 1 are covered as well as several new topics. Lab assignments are done on a CAD workstation. Topics covered include creating working drawings of simple and complex assemblies, redesigning existing parts and assemblies, and creating welded assemblies. PREREQUISITES: 606-152 - Engineering Graphics w/CAD 1

**606-154**
**Engineering Graphics w/CAD 3**          2.00

Advanced concepts of topics from Engineering Graphics 1 are covered as well as several new topics. Lab assignments are done on a CAD workstation. Topics covered include creating gear, sprocket, and pulley

drawings and cutting data, understanding the nomenclature associated with gear, sprocket, and pulley drawings, locating information about standard parts from tables and charts, creating cam displacement diagrams and profiles, and using vendor catalogs to select parts. PREREQUISITES: 606-153 - Engineering Graphics w/CAD 2

**606-159**
**Manufacturing Processes** 2.00
Basic methods of fabrication used in modern manufacturing, welding, electroforming, casting, metallic coating, anodizing, plating and chip removal, using numerical control, and hydraulic systems. PREREQUISITES: 606-103 - Material Properties or 606-136 - Manufacturing Materials with a mininum grade C COREQUISITES: 801-136;

**606-160**
**Fluid Power and Design** 3.00
This course is designed to give the student a foundation in hydraulics and pneumatics. The units of instruction will cover components, general operating characteristics and principles, fluid power systems, and problem solving techniques required to put these systems together.

**606-199**
**Internship, Mechanical Tech** 1.00
A mechanical tech internship is an opportunity for students to get hands-on experience in the mechanical or electrical field. Students will apply to participating industries for an opportunity to work with their engineers and technicians. If accepted, they will have the opportunity to earn credit (note: some companies may only accept you if you are earning credit).

**606-501**
**AutoCAD for the Trades** 1.25
This course has been added to enhance our existing apprenticeship program. It will also serve to familiarize our apprentices with some of the technological advancements that have already been implemented into the sheet metal field. AutoCAD has all but replaced the hand drafting methods that have been practiced for years. This course will teach the basic functions of the AutoCAD program and allow the students to apply these skills in practical field related applications. Work sheets, drawings and quarterly tests will be used to assess the student's progress.

**607-102**
**Conflict Resolution in Engineering/ Construction** 2.00
This course is designed to help students learn how to recognize, approach and defuse various confrontational situations on the construction job site and in the workplace.

**607-103**
**Civil Engineering And, Introduction to Architecture** 2.00
This course is designed to introduce students to the wide variety of career opportunities within the fields of Civil Engineering Architecture, Land Survey, Fresh Water Resources and Construction Management.

**607-104**
**Building Material and Construction Method** 3.00
This course is an introduction to common building materials and construction methods including soils, aggregates, pipes, cement, concrete, asphalt, steel, wood masonry and residential and commercial building materials.

**607-106**
**Building Materials** 2.00
This course covers an introduction into common building materials within construction, including soils, aggregates, pipes, cement, concrete, asphalt, steel, wood, masonry, residential and commercial building materials. COREQUISITES: 607-107 - Construction Methods

**607-107**
**Construction Methods** 2.00
This course covers an introduction into common methods of construction within Civil Engineering, including methods of construction regarding soils, aggregates, pipes, concrete, asphalt, steel, wood, masonry, residential and commercial building materials. COREQUISITES: 607-106 - Building Materials

**607-108**
**Boundary Location and Research** 3.00
The principles and practices for boundary location and research are presented in this course. The public land system will be covered in detail along with the principles for performing surveys. PREREQUISITES: 607-173 - Land Surveying Fundamentals

**607-117**
**Geographical Information Systems I** 2.00
This is an introductory course into GIS (Geographical Information Systems), GIS terminology, data structure, and data analysis based on spatial parameters. Students learn how to manipulate, parse, combine, and even build basic geographical databases. Applications ranging from land record management to marketing to political science are addressed.

**607-118**
**Geographical Information Systems II** 2.00
This is the second course in the Geographical Information System series (GIS). Students explore the conceptual framework of geographic information systems and spatial modeling and develop GIS database abilities through group and self-selected projects. Emphasis is on independent learning and synthesis of GIS into the student's studies. PREREQUISITES: 607-117 - Geographical Information Systems I

**607-119**
**Civil Technology Internship** 1.00
Satisfactory completion of at least 80 hours of relevant work experience in the field approved by the head instructor and documented by the employer.

**607-127**
**Civil Engineering Drafting** 3.00
Using MicroStation, the student will prepare standard drawings typically used in the field of Civil Engineering...including Title Pages, Typical Sections, Plan and Profiles, Cross Sections, Sewer Profiles, Alignment Tie Sheets, etc. PREREQUISITES: 607-187 - 3D Cad: Digital Terrain Modeling and 801-136 - English Composition 1

**607-128**
**Construction Estimating** 3.00

This course is designed to develop the skills for preparation of cost estimates using materials, labor, and equipment in construction. Time and cost components are also addressed in a unit production and a project scheduling evaluation using the critical path method. PREREQUISITES: 804-135 - Quantitative Reasoning COREQUISITES: 801-136 - English Composition 1

**607-129**
**Future Trends in Civil Engineering/ Architectural Technology** 2.00

In this course, students will explore an array of emerging technologies, processes, and approaches that provide a framework, present their findings in a formal setting, and model an application of the selected element to a traditional design-build approach. Upon completion of the course, students will be able to relate emerging technologies processes, and approaches to building design and construction practice. PREREQUISITES: 607-104 - Building Material and Construction Method 607-169 - Land Surveying Basics and 607-141 - Construction Basics

**607-132**
**Structural Mechanics - Civil Engineering** 3.00

This course introduces students to basic principles of structural mechanics (statics and strength of materials), with special emphasis placed upon application of these principles in the design of simple beams used in commercial buildings. PREREQUISITES: 804-135 - Quantitative Reasoning

**607-134**
**Steel - Design and Detailing** 2.00

This course is designed so that students will understand the design and detail of structures using LRFD methods, including simple beams, cantilevers, and axially loaded columns. Design of connections will also be addressed. PREREQUISITES: 607-132 - Structural Mechanics - Civil Engineering

**607-135**
**Reinforced Concrete - Design and Detailing** 2.00

This course is designed so that students will understand the design and detail of structures using reinforced concrete, including simple beams, cantilevers, retaining walls, and axially loaded columns. PREREQUISITES: 607-132 - Structural Mechanics - Civil Engineering

**607-136**
**Construction Project Management** 2.00

This course is designed to introduce the concepts of overall construction project management including scheduling, resource allocation, cost and technical constraints.

**607-137**
**Global Positioning Systems** 2.00

This course is designed to introduce students to the concepts of GPS in surveying and the equipment used in acquiring/processing survey grade information. PREREQUISITES: 607-169 - Land Surveying Basics

**607-139**
**Material Testing and Inspection** 4.00

Students will conduct and evaluate standardized field and laboratory testing on civil engineering materials as required for inspection certifications. PREREQUISITES: 607-104;

**607-141**
**Construction Basics** 2.00

In this course, students develop general skills helpful in construction. Students are exposed to the construction industry, tools and materials typically used in construction, construction health and safety, blueprint reading, and diversity in the construction industry. Upon completion of the course, students will have knowledge and skills to perform basic duties on a job site.

**607-143**
**Structural Design Concrete and Steel** 3.00

This course is designed so that students will understand the design and detail of structures using LRFD methods for steel and reinforced concrete. Simple beams, cantilevers, and axially loaded columns will be covered along with the design of structural connections. PREREQUISITES: 607-132 - Structural Mechanics - Civil Engineering with a minimum grade of C or TR

**607-148**
**Wood Design and Detailing** 1.00

This course is designed to teach the students to design and detail basic wood structural components and connections. PREREQUISITES: 607-132 - Structural Mechanics - Civil Engineering

**607-150**
**Survey Construction, Rte and Hwy** 4.00

Using Wisconsin Department of Transportation's Facility Design Manuals, students will learn the principles and designs of roadways...including horizontal/vertical curves, superelevations, pavement design, construction considerations, etc. Students will field survey an existing site and develop a preliminary plan set for a proposed roadway. The students will then stake out this proposed roadway. PREREQUISITES: 607-173 - Land Surveying Fundamentals and 801-136 - English Composition 1

**607-152**
**Elements of Inspections, Contracts, and Specifications** 3.00

Using Wisconsin Department of Transportation's Construction Specification Manual and various other project specific specifications, students will learn the principles and basic techniques of highway and municipal inspection.

**607-154**
**Sewer and Water Systems** 2.00

Using the latest hydraulic software along with the Standard Specifications for Sewer and Water in Wisconsin, students will learn the basic applications of hydrology and hydraulics for various applications including run off calculations and design of culverts, storm sewers, detention basins, etc. Students will also be aquainted with the principles and software applications in designing roadway drainage, water and sewer lines. PREREQUISITES: 607-104 - Building Material and Construction Method and 804-135 - Quantitative Reasoning

**607-161**
**Legal Aspects of Land Surveying** 2.00

This course covers the legal concepts and doctrines related to land, land ownership, duties and responsibilities of surveyors, and Wisconsin statutes and local codes. COREQUISITES: 607-108 - Boundary Location and Research

**607-162**
**Materials Testing** 2.00

This course introduces students to various material testing methods used in road construction based on Wisconsin Department of Transportation's Highway Technician Certification Program. PREREQUISITES: 607-104 - Building Material and Construction Method

**607-166**
**Capstone: CET Highway Technology 1.00**

The Civil Engineering Technician Highway capstone course is designed to guide students in resolving related problems by applying skills and techniques acquired throughout the program. The capstone course will provide an overall program assessment opportunity aimed at showcasing a student's technical skills developed from the Civil Engineernig Technology Highway program courses. COREQUISITES: 607-154 - Sewer and Water Systems and 607-150 - Survey Construction, Rte and Hwy

**607-167**
**Capstone: CET Freshwater Resources** 1.00

The Civil Engineering Technician - Fresh Water Resources capstone course is designed to guide students in resolving

related problems by applying skills and techniques acquired throughout the program. The capstone course will provide an overall program assessment opportunity aimed at showcasing a student's technical skills developed from the Civil Engineering Technology Fresh Water Resources program courses. COREQUISITES: 607-184 - Environmental Impact Assessments and 607-185 - Waste Water Treatment

**607-169**
**Land Surveying Basics** 2.00

This course is an introduction to the basics of land surveying ranging from pacing/taping and level loops thru the use of a total station to accomplish basic traverses. This course also includes an introduction to drawing deed descriptions, basic surveying terms, and units of measure.

**607-170**
**AutoCAD for Construction Sciences 2.00**

This course teaches the participant the basics of Computer Aided Drafting (CAD) using AutoCAD and other design software within the various fields of construction sciences and interior design. Students develop their CAD skills while working on various real world construction type projects.

**607-173**
**Land Surveying Fundamentals** 3.00

This course includes instruction in the use of instruments used in the field of construction surveying, such as the transit, level, and chains, and their application in the solving of typical field problems. The student does the field work and office computations required in the solution of these problems. PREREQUISITES: 607-169 - Land Surveying Basics 607-187 - 3D Cad: Digital Terrain Modeling 804-135 - Quantitative Reasoning

**607-174**
**Land Surveying - Data Processing** 2.00

This course is designed to supplement the regular land surveying class with the advanced data processing skills required by full time surveyors. COREQUISITES: 607-173 - Land Surveying Fundamentals

**607-181**
**Watershed Hydrology and Conservation** 2.00

Distribution and properties of waters on the earth. Concept of the hydrologic cycle, and basic principles of meteorology, precipitation, streamflow, and groundwater flow. Introduction to erosion and urban stormwater pollution controls and conservation PREREQUISITES: 804-135 - Quantitative Reasoning

**607-182**
**Water Sampling and Testing** 2.00

Review and application of technology and techniques for gathering data from water resources and water treatment processes. PREREQUISITES: 607-104 - Building Material and Construction Method and 801-136 - English Composition 1

**607-183**
**Fresh Water Treatment** 3.00

Review of water characteristics, drinking water, receiving water and effluent standards. Basic design methodology and operational features of common physical, chemical and biological processes for the treatment of water. PREREQUISITES: 607-182 - Water Sampling and Testing and 806-127 - Chemistry 1

**607-184**
**Environmental Impact Assessments 2.00**

Review of process and content of environmental impact assessments including evaluation of environmental impacts and alternatives PREREQUISITES: 801-136 - English Composition 1

**607-185**
**Waste Water Treatment** 3.00

Review of wastewater characteristics, receiving water and effluent standards. Basic design methodology and operational features of common physical, chemical and biological processes for the treatment of wastewater. Introduction to the processing and disposal of sludges and other treatment plant residuals. PREREQUISITES: 607-183 - Fresh Water Treatment

**607-186**
**Erosion Control in Construction** 2.00

This course is designed to introduce students to environmental considerations, environmental rules and regulations pertaining to construction, impacts of construction on the environment, and methods for effective erosion control. Students will reveeiw and apply the techniques for developing a stormwater plan including design, installation, inspection and maintenance of erosion and sediment control practices for construction sites. PREREQUISITES: 607-104 - Building Material and Construction Method and 804-135 - Quantitative Reasoning

**607-187**
**3D Cad: Digital Terrain Modeling** 2.00

This course is an introduction to the concepts and creation of Digital Terrain

Models (DTM) including the extrapolation of contours, profiles and cross sections from the DTM using Autodesk Civil3D software.

**607-188**
**Capstone: Geospatial Surveying Tech** 1.00

The Geospatial Surveying Technician capstone course is designed to guide students in resolving related problems by applying skills and techniques acquired throughout the program. The capstone course will provide and overall program assessment opportunity aimed at showcasing a student's technical skills developed from the Geospatial Surveying Tech program courses.

**607-189**
**Geospatial Data Processing** 2.00

This course is desgined to develop advanced data processing skills required by full time surveyors including data sets from remote sensing technologies. PREREQUISITES: 607-169 - Land Surveying Basics

**607-190**
**Legal Research and Boundary** 4.00

This course is an introduction to the legal concepts and doctrines related to land, land ownership, duties and responsibilities of surveyors, Wisconsin statutes and local codes. This includes the principles and practices for boundary location and research. The public land system will be covered in detail along with the principels for performing surveys. PREREQUISITES: 607-169 - Land Surveying Basics

**612-102**
**Pneumatics/Hydraulics - Introduction** 3.00

The fundamental principles and physical laws governing fluid power and pneumatics are studied. The operation of the various control valves and actuators will be explored through a combination of theory and practical lab exercises.

**612-115**
**Hydraulics/Advanced** 3.00

Analysis of the various selection factors for hydraulic components. Design of various components to determine how they meet specific duty requirements. Physical laws will be applied to determine how hydraulics can best be applied for maximum efficiency. Make component selections based on a given set of criteria.

**614-100**
**Construction Industry Safety and Health** 1.00

This course covers safety standards, policies, and procedures in the construction industry. Topics include scope and application of the construction standards, construction safety and health principles, and special emphasis on those areas in construction which are most hazardous.

**614-101**
**Construction Contract Law** 2.00

This course is an introduction to the broad field of construction contracts and law as applied to the built environment. PREREQUISITES: 614-100 - Construction Industry Safety and Health and 607-136 - Construction Project Management

**614-102**
**Capstone: Construction Proj Management** 2.00

The Construction Project Management Capstone course is designed to apply the practice of overall construction project management including scheduling, resource allocation, cost and techical constraints. PREREQUISITES: 607-136 - Construction Project Management

**614-107**
**Residential and Commercial Inspection** 3.00

This course is designed to teach students the skills needed to become a residential and commercial inspector including a focus on Energy Audits. PREREQUISITES: 607-104 - Building Material and Construction Method and 614-108 - Residential Code COREQUISITES: 614-114 - Commercial Code

**614-108**
**Residential Code** 1.00

This course is a study of the Wisconsin Uniform Dwelling Code and its application to residential design. COREQUISITES: 801-136 - English Composition 1

**614-110**
**Architectural Drafting/Residential** 3.00

This course is the capstone application class regarding residential design, including a full design of a residential building using BIM. Students develop set of working drawings and specifications for a residential building using Autodesk Revit. PREREQUISITES: 614-150 - 3D CAD:Building information Model COREQUISITES: 614-108 - Residential Code

**614-114**
**Commercial Code** 2.00

This course is a study of the Wisconsin Commercial Building Code (including the International Building Code) and its application to commercial design. PREREQUISITES: 801-136 - English Composition 1

**614-115**
**Architectural Drafting/Commercial** 3.00

This course is the capstone appliction class regarding commercial design, including a full design of a commercial building using BIM. Students develop a set of drawings and specifications for a commercial building using Autodesk Revit. PREREQUISITES: 614-150 - 3D CAD:Building information Model COREQUISITES: 614-114 - Commercial Code

**614-123**
**Capstone: Architectural Structural Tech** 1.00

The Architectural-Structural Engineering Technician capstone course is designed to guide students in resolving related problems by applying skills and techniques acquired throughout the program. The course will provide an overall program assessment opportunity aimed at showcasing a student's technical skills developed from the Architectural-Structural Engineering Tech program courses. PREREQUISITES: 607-134 - Steel - Design and Detailing COREQUISITES: 614-115 - Architectural Drafting/Commercial and course 607-135 - Reinforced Concrete - Design and Detailing or 614-101 - Construction Contract Law

**614-138**

**3D Modeling and Virtualization    1.00**

Using 3D modeling software and hardware, students will create and virtualize their construction project designs for presentations and portfolio development. PREREQUISITES: 614-150 - 3D CAD:Building information Model and 607-187 - 3D Cad: Digital Terrain Modeling

**614-140**

**Mechanical Systems for Buildings    3.00**

This course is an introduction to the broad field of mechanical systems and their implications on architectural form and design. It will provide students with the information and tools required to assess the need for an application of various building systems including mechanical, electrical, plumbing, vertical transportation, fire protection, etc. PREREQUISITES: 607-104 - Building Material and Construction Method

**614-150**

**3D CAD:Building information Model  2.00**

This course is an introduction to the concepts and creation of Building Information Modeling (BIM) projects including the extrapolation of schedules, plans, sections and elevations from the BIM using Autodesk Revit software.

**620-101**

**Variable Speed Drives    3.00**

This course covers the theory and operation of DC and AC variable speed drives that run electrical motors. Content will include servos, stepping motors, and control of general purpose motors. Feedback sensing devices in position and velocity control

will be covered. Laboratory experiments will be used to help the student in understanding the complex nature of those systems. PREREQUISITES: 620-150 - Electromechanical Dr Systems

**620-102**

**Process Controls    3.00**

This course covers the equipment necessary for open and closed loop control of fluids in both flow and level environments. It describes the various production methods used in process industries and provides a background of basic regulating control strategies and controller tuning to accommodate the dynamics of various systems. Strategies include feedback (proportional, integral, derivative), feed forward, ratio, cascade, and adaptive control. Process plan trainers, which are immature versions of real industrial processes, are used to reinforce the theory portion of the course. COREQUISITES: 620-111 - Solid State Circuits, Introduction to

**620-103**

**Industrial Controls, Introduction to    4.00**

Industrial electrical hardware such as motors and controls are studied. Industrial electrical control circuits are developed and wired. Troubleshooting techniques are used to correct problems in wiring or controls. Motor starters, industrial control relays, timers, proximity switches, and electric eyes are studied, including proper selection and wiring techniques. Ladder logic and wiring diagrams are examined and drawn. This course is for an individual that already has a basic understanding of electricity. COREQUISITES: 605-113 - DC/AC I

**620-104**

**Electro Hydraulic/Mechanical Systems    3.00**

This course brings together the information learned in the previous electrical, mechanical, and hydraulic/pneumatic courses. Circuits containing electrical, mechanical, and hydraulic/ pneumatic devices will be constructed and tested for proper operation. The topic of feedback devices and troubleshooting these complex units will also be explored. PREREQUISITES: 462-103 - Mechanical Power Transmission and 620-103 - Industrial Controls, Introduction to

**620-110**

**Robotics Mechanics I    3.00**

In this course, the basic control elements of electromechanical machines will be studied. The application and simple control of power using pneumatics and electrical methods will be covered. Electrical control includes the use of simple push buttons, solid state power transistors, and thyristors to control electrical power. The use of air as a power transfer medium will be implemented along with the use of electro-pneumatic devices to control a pick and place robot. The operational amplifier will be studied as a control device in proportional, integral, and differential control circuits. PREREQUISITES: 605-113 - DC/AC I

**620-111**

**Solid State Circuits, Introduction to    4.00**

This course is an introduction to diode circuits, bipolar transistor circuits, and electronic testing equipment. Topics are semiconductor physics, biasing techniques, lead-line analysis of amplifiers, frequency response, and realization of logic gates

using TTL and CMOS devices. Verification of theory is accomplished through laboratory experiments with small and medium scale integrated circuits. PREREQUISITES: 605-113 - DC/AC I

**620-113**

**Troubleshooting Electrical/Electronic Systems    3.00**

This course will teach the student proper troubleshooting techniques in the industrial setting. The student will be required to use electrical schematics and wiring diagrams along with proper troubleshooting equipment, such as meters and oscilloscopes, to locate problems with electrical/electronic systems. Areas of troubleshooting will include motor starters, relays, AC and DC motors, motor drives, lighting circuits, solid state equipment, and programmable controllers. PREREQUISITES: 620-102 - Process Controls with a minimum grade of C or TR COREQUISITES: 620-145 - Programmable Logic Controllers/Advanced

**620-120**

**Feedback and Control Systems/ Electromechanical    2.00**

The course in Feedback and Control Systems investigates devices and circuits used in the control of electromechanical systems. The student studies control diagrams and simple control systems and their applications. The student will become familiar with sensors and devices used in feedback circuits as well as accuracy and application of those sensors in control circuits. The course will help the student understand closed loop control systems. This knowledge will help the student to troubleshoot and repair these systems when

encountered on the job. PREREQUISITES: 605-113 - DC/AC I

## 620-140
### Programmable Controllers    2.00

The operation of the Programmable Logic Controller (PLC) is studied for the purpose of various applications. The hardware, including various I/O modules, is studied for applications and capabilities. Electrical ladder logic provides the documentation and programming means. The student will be able to write programs, load them into the PLC, troubleshoot any errors, and document the function and input/output of the control. PREREQUISITES: 620-103 - Industrial Controls, Introduction to

## 620-145
### Programmable Logic Controllers/ Advanced    3.00

The advanced course in programmable logic controllers continues with the study of the programmable logic controller. The student studies the advanced instruction set of commands. The sequencer, file-to-file moves, data arrays, remote I/O, displays, and messages are part of the advanced instruction set. The student applies the old and new commands to an application in the lab. The student becomes familiar with diagnostics and troubleshooting through the lab applications. The student will learn to interface the PLC to other controls, networks, and devices. PREREQUISITES: 620-140 - Programmable Controllers

## 620-150
### Electromechanical Dr Systems    3.00

Electromechanical Drive Systems introduces the student to motor drive systems. This includes three phase, single phase, DC, stepper, and servo motors. The student will acquire a thorough understanding of the electrical principles involved with motor analysis. The student will apply this knowledge to hands-on work with motors and controls in the lab. The lab introduces the student to motor set-up, troubleshooting, and parameter measurements. PREREQUISITES: 605-113 - DC/AC I

## 620-302
### Electrical Principles and Ind Controls    3.00

This class will cover motors used in industrial applications including both single and three-phase motors. Industrial electrical will also be covered such as motor control circuits, timing circuits, counter circuits using ladder logic and electrical drawings. This course will cover electrical safety including lockout tagout, Ohm's law, use of a Multi-meter and oscilloscope. Along with reading, writing, building and troubleshooting ladder diagrams with relays, timers and counters. The concepts of relays, timers and counters will be covered, built and troubleshot.

## 620-303
### Motors and Ind Electrical Systems    3.00

This course will cover motors and transformers utilized in industrial applications. Single and 3 phase AC motors, DC Motors, stepper and servo motors will all be wired and troubleshot using ladder diagrams. Variable frequency drives (VFD's) will be programmed and wired to control 3 phase AC motors. All topics will be covered along with failure modes, troubleshooting and replacement of the devices. PREREQUISITES: 620-302 - Electrical Principles and Ind Controls with minimum grade C

## 620-304
### PLC's and HMI's for Maintenance    3.00

In this course the student will learn the basics of how PLC's and HMI's work along with how to replace and download a program to get the machine up and running again. Minor programming changes will be covered. Learning how to communicate to the PLC's and HMI's from a computer will also be covered. PREREQUISITES: 620-302 - Electrical Principles and Ind Controls with minimum grade C

## 620-305
### Process and System Controls for Maint    3.00

Students will study process controls for flow, pressure, temperature and level typically found in industrial applications. Hands-on labs will reinforce the concepts studied. Automation systems will be explored with emphasis on the integration of the various componenets into a working system. Safety of these systems will be covered through labs and class discussions. PREREQUISITES: 620-302 - Electrical Principles and Ind Controls and 804-370 - Mathematics I/Applied with minimum grade C

## 623-146
### Introduction to Lean/Six Sigma    2.00

This introductory course will make students aware of all aspects of the manufacturing environment. The class will include overviews in the key aspects of Lean and Six Sigma. Various types of manufacturing and assembly processes will also be covered.

## 623-147
### Manufacturing Shop Safety    1.00

This class will cover general shop safety for a machining environment. The course will raise the awareness of workers to the hazards around them and explain work safety and how best to protect themselves. Other safety topics will be covered, including MSDS sheets, personal protective equipment, and lockout tag out.

## 623-153
### Metrology - Applied Measurement    1.00

This course is a study of the application of dimensional measuring tools, which stresses the hands-on use of common measurement instruments used in manufacturing, including gage blocks, micrometers, calipers, indicators, height gages, and optical comparators. Students utilize surface plate set-ups and accessories. This course covers the application of fixed gages, including plug, ring, thread, and radius. Students review specialized instruments and gages, such as snap gages, bore gages, electronic and pneumatic comparators, and profilometers. PREREQUISITES: 623-185 - Precision Measuring and 606-111 - Blueprint Reading

## 623-183
### Statistical Process Control/CT    1.00

A 20 hour course which introduces the methods and applications of Statistical Process Control (SPC) used in manufacturing operations. The history and objectives of SPC will be discussed to give students an appreciation for quality improvement through the application of statistical techniques. Emphasis will be placed upon the concepts of central tendency, variation and the normal

distribution of data. The development/ application/interpretation of variable and attribute control charts will be the main focus of this course.

**623-185**
**Precision Measuring**　　　　**1.00**
This course is an introduction to precision measurement tools and their uses. Included are the micrometer, vernier calipers, gage blocks, and fixed gages.

**623-194**
**Continuous Improvement**　　　　**1.00**
Students will examine the meaning of quality in a manufacturing environment, the cost of quality, the handling of non-conformance, the process of continuous improvement, and the identification of customer needs.

**625-121**
**MSSC Certification Preparation and Assessment**　　　　**2.00**
This class prepares students to earn MSSC production certification. It will emphasize areas required in the certification that are not covered in other AMST coursework. The students will take the four MSSC certification modules as part of the class. Students may retake modules if needed. The Manufacturing Skill Standards Council (MSSC) certification system assesses worker skills and knowledge based on industry-validated skill standards for all manufacturing sectors. Leading to nationally recognized certification as a "Manufacturing Production Technician", the program includes assessments in four areas: manufacturing processes and production; quality assurance; maintenance

awareness; and health, safety, and environmental assurance. Once students pass all four modules, they will receive their "MSSCProduction Technician" certificate.

**625-123**
**Workplace Safety-MSSC**　　　　**2.00**
This course introduces the student to safety and loss prevention in the workplace with an emphasis on the workers awareness for maintaining a safe, productive environment. The student will study safety concepts, hazards controls, developing safety and health programs and Federal and State mandated regulations. This course will also focus on specific content in the MSSC Safety module.

**625-125**
**Workplace Safety A - MSSC**　　　　**1.00**
Introduces you to safety and team building skills with an emphasis on the workers awareness for maintaining a safe, productive environment. Studies safety concepts, hazard controls, developing safety and health programs, and federal and state mandated regulations. The class will also concentrate on the specific content covered in the MSSC Safety module to prepare students for taking the Manufacturing Skill Standards Council (MSSC) Safety Online assessment.

**625-126**
**STEM Guitar Building**　　　　**2.00**
Learn about design and manufacturing principles and techniques through the process of designing and building an electric guitar. Topics include body and headstock design, basic woodworking, finishing, fretting, electronics assembly, hardware

assembly and guitar setup. Discover the processes that go into creating a consumer product and walk away from the class with a beautiful solid body electric guitar that you designed and built yourself.

**625-130**
**Intro to STEM Guitar Building**　　　　**1.00**
Learn about disassembly and assembly techniques using an electric guitar. Topics include part identification, hardware disassembly and assembly, and guitar setup. Learn the process of intonation as you perform the final alignment to restore the guitar to playable condition.

**625-300**
**MSSC and Certification STM**　　　　**1.00**
This class prepares students to earn MSSC production certification. It will emphasize areas required in the certification that are not covered in other coursework. The students will take the three remaining MSSC certification modules as part of the class; Quality, Production and Maintenance. Students may retake modules if needed. The Manufacturing Skill Standards Council (MSSC) certification system assesses worker skills and knowledge based on industry-validated skill standards for all manufacturing sectors. Leading to nationally recognized certification as a "Manufacturing Production Technician". Once students pass all four modules, they will receive their "MSSC Production Technician" certificate. Students will also take the "Standard Timing Model" mechanical skills assessment.

**628-100**
**Automated Manufacturing Concepts/ Intro**　　　　**2.00**
An introduction to manufacturing processes with emphasis on manual machining to prepare students for further study in the Automated Manufacturing fields. Covers shop safety practices in a machine shop, the use of manual milling machines, lathes and drill presses to manufacture parts to print, and the use of basic metrology instruments to determine if the parts are to print. Calculation and application of correct cutting parameters of selected materials and tools is practiced.

**628-105**
**Computer Integrated Manufacturing Applications**　　　　**4.00**
CIM techniques are used to analyze and implement actual or simulated manufacturing applications. Student teams will select, plan, and develop a project proposal which will incorporate application and integration of CIM subsystems to manufacture or process a part or product. Application solutions will require gathering and developing of data, planning and scheduling a process, a quality and process control plan, hardware and software engineering, actual or simulated application, and a project report. PREREQUISITES: 606-126 - AutoCAD, Introduction

**628-108**
**Auto Manufacturing Systems Technology Field Experience**　　　　**2.00**
Provides the student with an opportunity to apply the technologies learned in earlier class work while experiencing actual work assignments. PREREQUISITES: 620-110 - Robotics Mechanics I

**628-109**

**Mechanical Skills for Technicians**   **3.00**

This course covers the basic mechanical skills needed by a technician. Skills covered include the use and care of hand tools and small power tools, drilling, tapping, removal of broken bolts, studs, and helicoil insertion. Basic measuring tools and techniques are also covered. Other topics include type and use of fasteners, lubricants and adhesives used in repair, and assembly of automated machines.

**628-110**

**CNC/CAM Programming**   **3.00**

This course is a study of computer assisted programming for computer numerical control (CNC) machine tools. The student will use a microcomputer CAD/CAM system for program creation, editing, and verification. It is recommended that studnets have basic computer skills before enrolling in this course.

**628-111**

**Computer Assisted Programming/ Robotics and FMS**   **3.00**

This course is a study of computer assisted programming for robotics and Flexible Manufacturing Systems (FMS). Students will use microcomputers to program robots and a CAD/CAM system for program creation, editing, verification, and interfacing. The student will interface the CNC program with the program.

**628-112**

**Computer Aided Manufacturing, Advanced**   **3.00**

This course is an introduction to computer integrated manufacturing (CIM). The

students will use microcomputers to write, edit, and verify programs for conversational controls and a CIM system. PREREQUISITES: 628-111 - Computer Assisted Programming/Robotics and FMS with a minimum grade of C or TR COREQUISITES: 620-145 - Programmable Logic Controllers/Advanced

**628-115**

**Industrial Robotics and Programming**   **3.00**

A study in industrial robotics and programming. Students will learn to program a FANUC industrial robot and earn FANUC CERT Certification. Students will develop frames, learn file manipulation and program the robot to manipulate products, perform different tasks based on I/O conditions, and utilize variables. We will also study robotic power supplies, end of arm tooling and control systems.

**628-122**

**Engineering Design and Development**   **4.00**

Engineering Design and Development is an engineering research course in which students work in teams to research, design, and construct a solution to an open-ended engineering problem. Students apply engineering principles and are guided by a community mentor. They must present progress reports, submit a final written report, and defend their solution to a panel of outside reviewers at the end of the school year.

**628-123**

**Computer Integrated Mfg Part 1 PLTW**   **2.00**

The purpose of the Computer Integrated Manufacturing course is to expose students to the fundamentals of computerized manufacturing technology. The course is built around several key concepts: Principles of Manufacturing Manufacturing Processes Elements of Automation Integration of Manufacturing Elements

**628-124**

**Computer Integrated Mfg Part 2 PLTW**   **4.00**

The purpose of the Computer Integrated Manufacturing course is to expose students to the fundamentals of computerized manufacturing technology. The course is built around several key concepts: Principles of Manufacturing Manufacturing Processes Elements of Automation Integration of Manufacturing Elements PREREQUISITES: 628-123 - Computer Integrated Mfg Part 1 PLTW

**628-125**

**Quality for Automated Manufacturing**   **3.00**

This course will be heavy hands-on lab work using different measuring tools such as scales, calipers, micrometers, bore gauges, gauge blocks and height gauges. Automated gauging concepts will be covered with hands on experience along with theory based information. The major areas of Statistical Process Control will be covered. The symbols and basic understanding of Geometric Dimensioning and Tolerancing will also be covered.

**628-300**

**Machining for Maintenance**   **2.00**

A study and practice of manual machining to prepare students for careers in maintenance fields. Covers shop safety practices in a machine shop, the use of manual milling machines, lathes, saws and drill presses to manufacture parts to print. This class also covers the use of basic metrology instruments to determine if the parts are to print. Calculation and application of correct cutting parameters of selected materials and tools is practiced.

**662-101**

**Safety in Healthcare**   **1.00**

Safety in the Health Care environment is explored. Safety issues include; electrical, chemical, radiological, biological and fire. National codes and standards set forth by JCAHO, NFPA 99, FDA, and OSHA are examined.

**662-102**

**Medical Devices; Function and Use 1**   **3.00**

Medical instrumentation utilized in both monitoring and diagnostic capacities for the respiratory and circulatory systems are examined. The medical terminology associated with these two systems is also covered. The instrumentation for monitoring individual organs is also explored.

**662-103**

**Medical Devices; Function and Use 2**   **3.00**

Medical instrumentation utilized in both monitoring and diagnostic capacities for the Gastrointestinal, Nervous, Musculoskeletal, and Endocrine systems are examined. The medical terminology associated with theses systems is also covered.

**662-104**
**PLTW Digital Electronics I          2.00**

This course will introduce basic DC and AC circuit analysis, bread boarding techniques for circuit construction, circuit simulation using Multisim, and proper use of digital multimeters, function generators, and oscilliscopes. In addition, both Camtasia and Excel will be introduced for use in the classroom.

**662-105**
**PLTW Digital Electronics II          2.00**

This course will introduce the applied logic that encompasses the application of electronic circuits and devices. Computer simulation software is used to design and test digital circuitry prior to the actual construction of circuits and devices.

**662-112**
**DC/AC III          3.00**

This course introduces the student to the fundamental laws in electrical engineering technology and their application in advanced circuit analysis concepts and techniques. Topics include a brief review of Kirchoff's law, induction, capacitance, series-parallel circuits, power factor, impedance, and phasors. Then, superposition, Thevenin's theorem, Norton's theorem, mesh and nodal analysis, sinusoidal steady-state analysis, ideal transformers, and complex power are covered. The student will utilize both the "hands-on" approach and computer simulation, including swept AC frequency circuit analysis, in the laboratory, as the laboratory experiments are designed to support the topics presented. PREREQUISITES: 605-114 - DC/AC II

**662-124**
**Electronic Circuit Analysis          3.00**

This course introduces the student to the fundamental laws in electrical engineering technology and their application in advanced circuit analysis concepts and techniques. Topics include frequency as a variable in the analysis of circuits with a sinusoidal excitation, Bode plots, and detailed analysis of resonant circuits. The student is introduced to small signal analysis of transistor amplifier circuits and examination of gain and frequency response of the circuit. The student will utilize both the "hands-on" approach and computer simulation, including swept AC frequency circuit analysis, in the laboratory, as the laboratory experiments are designed to support the topics presented. PREREQUISITES: 605-120 - Electronic Devices I

**664-100**
**Intro to Industrial Control Systems   2.00**

In this course, learners are introduced to basic concepts of industrial computer-controlled systems. The learner explores various types of programming using robots and PLC and participates in lab experiments designed to introduce programming principles, electronic inputs and outputs (analog and digital), and communication between system components including Ethernet protocols. Upon completion of the course, learners will be able to explain how the control processes are utilized to automate manufacturing facilities.

**664-101**
**PLC Industrial Control Sys
Applications          2.00**

In this course, learners develop machine process automation control systems with temperature, pressure, flow, and level controls. Learners investigate the utilization of PID loops in PLC program design. Learners program a PLC using vision, smart sensors, Servos, motor controls, and analog IO. Learners develop PLC programs including Human Machine Interface (HMI) with displays for machine input and output data. Upon completion of the course, learners will be able to build a PLC motion project for basic machine process automation control systems. PREREQUISITES: 605-136 - Programmable Controller System Design with a minimum grade of C minimum grade C, TR; COREQUISITES: 664-102 - Motor Controls for Adv Manufacturing with minimum grade C

**664-102**
**Motor Controls for Adv
Manufacturing          3.00**

In this course, learners examine the fundamentals of electrical AC/DC/Servo/Stepper motors and motor controls. Learners will examine electrical safety work practices and apply NFPA 70 and NEC safety codes to various situations. Motor control devices and components (motor drives, relays, timers, counters, motor contactors, overloads) including electromechanical and solid state equipment will be presented. Learners will operate motors using PLC's. Upon completion of the course, learners will apply ladder logic, wiring diagrams, and PLC's to advanced manufacturing machines. PREREQUISITES: 664-100 - Intro to Industrial Control Systems

with a minimum grade of C COREQUISITES: 801-136 - English Composition 1

**664-105**
**Introduction to Industrial Robotics   2.00**

In this course, learners are introduced to programming techniques for industrial robots. The learner examines teach pendant programming including I/O, routines, decision making, six frames of positional operation, and robot communication. Upon completion of the course, learners will be able to operate and program industrial robots commonly used in Industry 4.0.

**664-110**
**Intro to Mechatronics          2.00**

In this course, learners are introduced to microprocessor controlled electromechanical systems. The learner examines how individual components work, and how they are integrated into simple systems. Upon completion of the course, learners will understand what technicians do in the workplace and how industry utilizes Mechatronics in advanced manufacturing.

**664-111**
**Machine Mechanisms          3.00**

In this course, learners apply input forces and movement to mechanisms and determine the output forces and movement of the mechanisms. Applied mechanisms will be presented including: levers, bearings, gears, cams, couplings, brakes and clutches, belt and chain drives through splines, pins, and keys. Learners explore mechanisms that are supported by structural components such as a frame, fasteners, bearings, springs, and other

machine elements. Upon completion of the course, learners will analyze the combination of force and movement within machine elements to determine if system requirements are met and machine functions safely. PREREQUISITES: 664-100 - Intro to Industrial Control Systems 664-110 - Intro to Mechatronics and 804-115 - College Technical Math 1

**664-112**
**Fundamentals of Machining**
**Processes                        3.00**

In this course, learners examine the fundamental skills of machining processes for a career in Advanced Manufacturing Technology. Lathes, mills, and grinders will be the primary machines explored. An overview of machining processes is presented. Setup and operation, manual lathes and mills, CNC lathes and mills, basic programming using G and M codes, and tooling required for lathes and mills will be presented. Upon completion of the course, students will be able to develop a machining process plan.

**664-115**
**Interpret Engineering Drawings     2.00**

In this course, learners build foundation skills needed to read and interpret industrial prints. These skills, used to interpret industrial prints, are presented in a logical order: title blocks, change blocks, shop notes, symbols, lines, orthographic views, section views, auxiliary views, pictorial views, and assembly views. Learners interpret part geometric dimensions and tolerances using basic math skills. Upon completion of the course, learners will be able to read, interpret, and apply drawing content to advanced industrial equipment.

**664-116**
**Intro to Mfg Quality Control**
**Systems                        2.00**

In this course, learners explore skills and tools necessary to fully participate in a lean, continuous improvement manufacturing environment. These include standardized work instructions, Total Productive Maintenance (TPM), mistake-proofing, changeover reduction, ergonomics, root cause analysis, Six Sigma, and quality management. Learners are introduced to basic statistical tools and fundamental concepts needed to improve and control industrial processes. Upon completion of the course, learners will be able to use statistical tools to improve processes, define problems, set priorities, predict outcomes, and identifiy causes of quality problems. PREREQUISITES: 664-115 - Interpret Engineering Drawings with a minimum grade of C

**664-117**
**Materials and Processes          2.00**

In this course, learners examine the relationship between the properties and processes of various materials used in advanced industrial equipment. The properties include: mechanical strength, chemistry, and basic material characteristic. The processes include: modern manufacturing techniques, fabricating, casting, metallic finishes, plating and chip removal. Upon completion of the course, learners will be able to match materials and processes used in the manufacture of equipment. PREREQUISITES: 664-100 - Intro to Industrial Control Systems and 664-110 - Intro to Mechatronics with a minimum grade of C complete course 801-136 - English Composition 1 with minimum grade of D

**664-120**
**Inro to Industrial Internet of Things   2.00**

In this course, learners are introduced to theoretical and practical topics of the Industrial Internet of Things (IIoT). The learner investigates the range of sensor and actuator devices available, ways in which they communicate and compute, methods for getting information to and from IIoT-enabled devices, and ways of visualizing and processing data acquired from the IIoT. Upon completion, learners will utilize hardware and software to construct a sensor network within an existing system and utilize industry standard tools to visual the acquired data.

**664-121**
**Vision and Smart Sensors          2.00**

In this course, learners will utilize 2D cameras, lighting systems and smart sensors in machine applications to provide imaging-based automatic inspection and analysis for such applications as automatic inspection, process control, and robot guidance. Learners will use vision systems to: sort good and bad parts; identify, position and orient objects images for robot guidance and orientation using edge detection; blob detection; pattern recognition; image acquisition; and bar code and QR code recognition. Learners will integrate smart sensors into PLC machine applications. Upon completion of this course learners will apply camera and smart sensors into a machine process application. PREREQUISITES: 605-130 - Digital Electronics with a minimum grade of C COREQUISITES: 664-102 - Motor Controls for Adv Manufacturing with a minimum grade of C, TR

**664-122**
**Engineering Project Mgmt          2.00**

In this course, learners explore a systematic approach to manufacturing project management. Learners examine project scope and its relationship to project success by considering coordinated schedules, activities, people, and resources. Upon completion of the course, learners will be able to apply Work Breakdown Structures, Activity Diagrams, and Gantt Charts to short-term and long-term manufacturing projects. PREREQUISITES: 801-136 - English Composition 1 with a minimum grade D

**699-110**
**Communication Document Design   3.00**

This course gives students skills and practice needed to design and lay out communication products using Adobe InDesign software. Students explore and apply graphic design, technical communication, and usability theories to produce print and electronic communication products. COREQUISITES: 103-143 - Computers for Professionals

**699-111**
**Communication Project Management 3.00**

This course gives students skills and practice needed to analyze, design, develop, implement, and evaluate communication products. Students use strategies for researching requirements, planning projects, tracking progress, testing usability, and revising communication products. In addition, they review methods to collaborate effectively with clients, coworkers, and vendors. The ethical practices of professional communications are also reviewed. PREREQUISITES: 804-135 - Quantitative Reasoning minimum grade D-

**699-112**
**Editing** 3.00

This course gives students skills and practice needed to conduct various levels of edits, including comprehensive edits, copyedits, and proofs. Students edit communication products for correct usage in capitalization, grammar, punctuation, spelling and style. They apply theories and strategies to ensure communication products conform to style guides, to develop editor-writer relationships and to provide audiences with clear ethical content. COREQUISITES: 801-136 - English Composition 1 Course 831-103 - College Writing, Intro

**699-113**
**Information Design** 3.00

This course gives students skills and practice needed to design and manage communication products using professional communications strategies. Students explore and apply strategies to structure communication products so that users can access information easily, understand it, and feel comfortable with its presentation. XML is also introduced. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**699-114**
**Professional and Technical Writing** 3.00

This course gives students skills and practice needed to develop communication products for business, government, and not-for-profit organizations. Students are introduced to the professional communications field and career options. They use a professional process to develop and publish a variety of communication products. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**699-115**
**Professional Communications Internship** 3.00

This course provides students an opportunity to apply professional communications skills and training in a professional setting. Students spend a minimum of 144 hours performing professional communications tasks and up to one hour per week in consultation with the instructor. Students work with a sponsor at an employer and the instructor to set up and complete the internship. PREREQUISITES: 699-111 - Communication Project Management and 699-112 - Editing with a minimum grade of C

**699-116**
**Professional Communications Portfolio** 1.00

This course provides students skills and practice needed to enter the professional communications profession or advanced education. Students review their progress throughout the program and prepare for careers. They develop portfolios of their work and explore career preparation, job hunting strategies, potential employers, and professional expectations in the workplace. They also review future education opportunities. PREREQUISITES: 699-111 - Communication Project Management and 699-112 - Editing with a minimum grade of C

**699-117**
**Research Fundamentals** 3.00

This course gives students skills and practice needed to conduct user and product research for a variety of professional communications projects. Students interview sources and perform usability tests as well as use traditional and Internet sources to locate information. They interpret and incorporate research findings into plans and communication products.

**699-130**
**Writing and Publishing** 3.00

This course gives students skills and practice needed to publish communication products through print and electronic media. Students learn their responsibilities, publishing techniques, and publishing software, such as Adobe Acrobat software, for preparing communication products for distribution using epublications, print, PDF, and the web.

**699-131**
**Writing Copy for Sales** 3.00

This course gives students skills and practice needed to develop sales promotion materials for print media, audiovisual media, the Internet, and the specialty media. Students plan a marketing strategy and create communication products for sales and marketing. They incorporate persuasive strategies in communication products for long and short-term. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**699-132**
**Writing for Orgs.** 3.00

This course gives students skills and practice needed to develop various types of communication products for new or existing organizations. Students develop internal documentation to articulate an organization's strategies, define the organization's workings, recruit employees, attract customers, and address common issues. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**699-133**
**Writing for Social Media** 3.00

This course gives students skills and practice needed to use social media for organizational purposes. Students explore techniques for effective writing in social media, including the elements of design, interaction, and usability. They investigate an array of social media options, including Facebook, LinkedIn, Tumblr, and Twitter. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**699-134**
**Writing for the Media** 3.00

This course gives students skills and practice needed to develop various types of communication products for media outlets. Students use journalism strategies to create various types of communication products, including advertisements, articles, audiovisual scripts, newsletters, and press releases. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**699-135**
**Writing for the Web** 3.00

This course provides students skills and practice needed to develop web content using website development tools and content management systems. Students plan, write, develop graphics for, revise, and publish websites. They apply theories and strategies to design, create, and measure accessible, ethical, and usable websites. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**699-136**
**Writing Grant Proposals** 3.00

This course gives students skills and practice needed to write grant proposals and related documents. Students explore government, corporate, and private funding sources and locate Requests for Proposals (RFPs). They use audience analysis, research methods, rhetorical strategies, and revision techniques to write competitive grant proposals. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**699-137**
**Writing Product Documentation** 3.00

This course gives students skills and practice needed to develop various types of manuals and related communication products for a variety of products. Students plan, write, illustrate, revise, and publish manuals. They apply theories and strategies to design and create accessible, ethical, and usable communication products. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**699-138**
**Writing Software User Assistance** 3.00

This course gives students skills and practice needed to develop user assistance and related documentation for software products using MadCap Flare software. Students plan, write, illustrate, revise, and publish user assistance and print documentation. They apply theories and strategies to design and create accessible, ethical, and usable communication products. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR

**801-102**
**Technical Writing: Online Help** 1.00

Students are provided the skills and practice to integrate the conceptual, artistic, and psychological skills of designing and developing online help using MadCap Flare. Emphasis is placed on the production of help systems, including designing, creating, and testing the help system.

**801-106**
**Technical Writing/Layout and Design** 2.00

Students are provided the skills and practice to develop electronic layouts. Emphasis is placed on the use of layout skills, such as white space, graphics, type fonts and sizes, color, screens, and grids.

**801-107**
**Technical Writing/Audio Visual** 2.00

Students are provided the skills and practice to write for audio visual production. Emphasis is on the preparation of the time, audio, and video sections of storyboards for the production of industrial, commercial, and educational film, videotape, and CD programming.

**801-108**
**Technical Writing/Sales Promotion** 2.00

Students are provided the skills and practice in preparing and writing sales promotion materials for the print media, audiovisual media and the specialty media. Emphasis will be on the diversity of the sales promotion production and the need for long-range, multi-level programs, as well as the quick, attention getting programs.

**801-111**
**Technical Writing/ Electronic Publishing For Windows** 2.00

Students are provided the skills and practice in the conceptual, artistic, and psychological techniques of layout and design with the flexibility offered by Adobe InDesign on the Windows platform. Emphasis is on the creation of production-ready page layout.

**801-113**
**Technical Writing/Online Documentation** 2.00

Analysis and application of the technical writing skills needed to write and publish online documents. Emphasizes the different types of online documentation, the design and syntax requirements of online documentation, and the programming considerations of online documentation.

**801-114**
**Technical Writing/ Safety Information and Product Liability** 1.00

Students are provided the skills and practice to produce effective safety information and hazard warnings for use in technical publications. Emphasis is on the identification of hazards associated with product usage and development of hazard statements in accordance with ANSI standard Z535 and other applicable standards. The course provides skills required to implement a uniform safety information system in publications that will improve product liability loss prevention efforts.

**801-117**
**Technical Writing/Technical Application** 1.00

Apply the skills of interpretation and application of blueprints, schematics, circuit diagrams, and product data for technical publication.

**801-120**
**Technical Writing/Grant and Proposal Writing** 2.00

Familiarization and practice in writing program and funding proposals for grants. Emphasis will be on following the Request for Proposals (RFP) guidelines that enhance successful funding and program initiation from federal, state and local government, as well as private foundations.

**801-121**

**Technical Writing/Print Production   2.00**

Students are provided the skills and practice needed to develop an understanding of the non-writing steps required in the production of technical publications. Emphasis will be on using type and graphics, using color, using ink and paper, controlling photographs, using offset printing, and understanding finishing and binding.

**801-122**

**Technical Writing/Manual Production   3.00**

Practice in developing and revising technical manuals to complex commercial, industrial, or commercial specifications. Emphasis will be on the production of technical manuals from conception through research, writing, illustrating, layout, approval, and production. PREREQUISITES: 801-106 - Technical Writing/Layout and Design, 801-111 - Technical Writing/ Electronic Publishing For Windows, 801-114 - Technical Writing/ Safety Information And Product Liability, 801-133 - Technical Writing/Introduction, and 801-197 - Technical Reporting with a minimum grade of C or TR

**801-123**

**Technical Writing/Procedural Writing   2.00**

Analyze and apply the skills required to prepare the various internal operational writings such as mission statements, job descriptions, job ads, standard operating procedures, employee evaluations, department reports, and marketing plans.

**801-124**

**Technical Writing/ Edit and Proofreading   2.00**

Students are provided the skills and practice to edit and proof technical publications. Emphasis is on the skills needed for self-editing as well as peer-editing. Principles of spelling, punctuation, and sentence structure are reviewed.

**801-125**

**Technical Writing/ Vendor Management/ Ethics   1.00**

Understand the technical communicator's management responsibilities towards the various vendors that are used in the production of audiovisual, online, printed, and specialty products. It emphasizes the creation of documents Emphasis will be on bidding, controlling costs, monitoring project progress, monitoring legal obligations of purchase order, and maintaining public relations with vendors. In addition, the ethics of the technical communication profession will be reviewed.

**801-126**

**Technical Writing/ Externship/ Internship   3.00**

Provides an opportunity to apply technical communication skills and training to an actual work situation. The student will spend a minimum of 8 hours per week at the work station performing technical communications tasks and up to one hour per week in consultation with the assigned instructor. Student contracts with the employer and the instructor regarding the work agreement. PREREQUISITES: 801-106 - Technical Writing/Layout and Design, 801-111 -

Technical Writing/ Electronic Publishing For Windows, 801-114 - Technical Writing/ Safety Information And Product Liability, 801-133 - Technical Writing/Introduction, and 801-197 - Technical Reporting with a minimum grade of C or TR

**801-128**

**Technical Writing/ Forms Design   1.00**

Students are provided the skills and practice to create effective and user-friendly forms. Emphasis is on identifying and meeting the needs for the form by all users. Using computer software, students produce both paper and electronic forms.

**801-129**

**Technical Writing/Technical Photography   2.00**

Analyze and apply technical photography skills needed to communicate information visually. Emphasizes the strengths and weaknesses of the various photographic formats, the effects of photographic technique on photo quality, and the planning requirements for a photo shoot.

**801-131**

**Technical Writing/ Newsletter Writing   1.00**

Students are provided the skills and practice in publishing newsletters to publication specifications. Emphasis will be on the production of newsletters from conception through research, writing, illustrating, layout, editing, approval, and production.

**801-133**

**Technical Writing/Introduction   2.00**

Analysis and application of the technical writing skills needed by technical communicators. Emphasizes the research, writing, and electronic publishing of technical manuals, promotional publications, and technical journalism. PREREQUISITES: 801-136 - English Composition 1

**801-134**

**Technical Writing: Project Management   1.00**

Students are provided the skills and practice of planning, organizing, and monitoring all technical communication project related activities. This includes monitoring project status, providing project leadership, resolving project issues and conflicts, establishing project expectations, and building successful project teamwork.

**801-135**

**Technical Writing: Portable Document Format   1.00**

Students are provided the skills and practice to create portable document files (PDF), optimize program settings, use the editing and annotation features, and prepare files for both commercial printing and the Web. Emphasis is on the use of PDF files in the technical communication workplace and for the employment search.

**801-136**

**English Composition 1   3.00**

This course is designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing,

writing, editing and revising are applied through a variety of activities. Students will analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals will develop critical reading skills through analysis of various written documents. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**801-141**
**Mass Communications, Intro to**     3.00

This course explores communication in media and media literacy by providing insight into the important issues that confront students as consumers and purveyors of mass media within the workforce and in society. The mass media revolution, including media technologies, the evolution of media content and platforms, including new media, the impact of media communications on business and society as a whole, media bias, and media law and ethics form the basis of the course. PREREQUISITES: 838-105 - Reading and Study Skills, Intro with a minimum grade of C or TR

**801-150**
**English Composition II**     3.00

In this advanced writing course, students develop critical reading and writing skills and produce original compositions demonstrating critical thinking ability. Students also produce a documented research project using primary and secondary sources. PREREQUISITES: 801-136 - English Composition 1 with a minimum grade of C or TR

**801-177**
**Creative Writing**     3.00

This course focuses on the study and production of written work in three genres: fiction, nonfiction, and poetry. Through the workshop method of instruction, students will complete writing exercises and other projects designed to enhance creativity. Students will also develop an awareness of their audience, build collaborative discussion skills, offer and use constructive feedback, analyze others writers' creative and critical thinking processes, and learn other skills transferable to their academic and professional lives. PREREQUISITES: 831-103 - College Writing, Intro with a minimum grade of C or TR or achieve the required placement test score

**801-196**
**Oral/Interpersonal Communication**    3.00

This course focuses upon developing speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities, and other projects. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**801-197**
**Technical Reporting**     3.00

The student will prepare and present oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports, and case studies. This course is designed as an advanced communication course for students who have completed at least the prerequisite introductory writing course. PREREQUISITES: 801-136 - English Composition 1

**801-198**
**Speech**     3.00

This course explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of the course. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**801-199**
**Written Communication II**     3.00

An advanced writing course which emphasizes the use of the writing process to explore various themes related to the world of work, ethics and life in a multi-cultural, global community. Students develop critical reading and writing skills and produce original compositions demonstrating critical thinking ability. Students will also learn the process for producing a documented research project using primary and secondary sources. PREREQUISITES: 801-136 - English Composition 1

**801-301**
**Writing Principles**     1.00

Reviews the fundamentals of grammar. Emphasizes practical application of English in business correspondence. PREREQUISITES: 851-760 or 851-756 - Foundations of Writing with a minimum grade of C or TR or achieve the required placement test score

**801-302**
**Speaking Principles**     1.00

Covers techniques of verbal and non-verbal communication. Presentation techniques in informative, demonstrative, persuasive and impromptu situations are stressed.

**801-500**
**Apprentice Communications**     1.00

Discusses basic communications concepts relating to the workplace. Skills covered are giving instructions explaining technical processes.

**801-991**
**Communication General Education Credit**     3.00

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher. This credit is then substituted for general education coursework in the 801 area.

**801-992**
**Communication General Education Credit**     3.00

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher. This credit is then substituted for general education coursework in the 801 area.

**801-993**
**Communication General Education Credit**     3.00

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher. This credit is then substituted for general education coursework in the 801 area.

**801-994**
**Communication General Education Credit          3.00**

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher. This credit is then substituted for general education coursework in the 801 area.

**801-999**
**Communication Elective Credit          3.00**

This course is used to award up to 12 credits to students transferring to Gateway without a previous Associates degree or higher. This credit can only be used to fulfill program elective requirements and cannot be used as a substitute for any other course.

**802-104**
**German I          3.00**

Fundamentals of German grammar; drill in structure and pronunciation; development of vocabulary. Aural-oral and reading skills are introduced in the classroom.

**802-114**
**Chinese 1 (elementary level 1)          3.00**

Chinese 1 presents listening, speaking, reading, and writing activities associated with everyday communication. Conversation skills are enhanced through in-class discussion. Students develop chinese character formation and interpretation. Chinese culture is explored.

**802-115**
**Chinese 2 (elementary level 2)          3.00**

Chinese 2 presents listening, speaking, reading, and writing activities associated with everyday communication. Students build on the skills developed in Chinese 1. Conversation skills are enhanced through in-class discussion. Students continue development of chinese character formation and interpretation. Chinese culture is explored. PREREQUISITES: 802-114 - Chinese 1 (elementary level 1) or 802-113 with a minimum grade of C or TR

**802-116**
**Chinese 3          3.00**

Chinese 3 presents listening, speaking, reading, and writing activities associated with everyday communication. Students build on the skills developed in Chinese 2. Conversation skills are further enhanced through in-class discussion. Students continue development of chinese character formation and interpretation. Chinese culture is explored. PREREQUISITES: 802-115 - Chinese 2 (elementary level 2) with a minimum grade of C or TR

**802-117**
**Chinese 4          3.00**

Chinese 4 will help students build on the skills developed in Chinese 3. Their vocabulary and knowledge of grammar of the Chinese language will grow by learning more new words, expressions and sentence patterns needed for everyday communication and by consolidating their knowledge through oral and written practice in and out of class. In this course, students will participate in classroom discussions in Mandarin. Aspects of Chinese Culture will be further explored. PREREQUISITES: 802-116 - Chinese 3 with a minimum grade of C or TR

**802-118**
**SPA IV: Fourth Semester Spanish          4.00**

Spanish IV is a continuation of Spanish III and further develops all basic language skills: listening comprehension, speaking, reading, and writing. Spanish IV is the fourth semester Spanish course at Gateway Technical College and is designed for those students who have completed Spanish III at Gateway or another college/university and for native Spanish speakers who would like to improve their grammar, reading, and writing. Classes will include an extensive study of intermediate vocabulary and grammatical structures as well as cultural studies of both Spain and Latin America. All Spanish classes taught at Gateway are immersion classes. PREREQUISITES: 802-119 - SPA III: Third Semester Spanish with a minimum grade of C or TR

**802-119**
**SPA III: Third Semester Spanish          4.00**

Spanish III reviews the material taught in Spanish I and Spanish II and further develops all basic language skills: listening comprehension, speaking, reading, and writing. Spanish III is the third semester Spanish course at Gateway Technical College and is designed for those students who have completed Spanish II at Gateway or another college/university and for native Spanish speakers who would like to improve their grammar, reading, and writing. Classes will include an extensive study of intermediate vocabulary and grammatical structures as well as cultural studies of both Spain and Latin America. All Spanish classes taught at Gateway are immersion classes. PREREQUISITES: 802-112 or 802-125 - SPA II: Second Semester Spanish with a minimum grade of C or TR

**802-124**
**SPA I: First Semester Spanish          4.00**

Spanish I will develop and emphasize all basic language skills: listening comprehension, speaking, reading, and writing. Spanish I is the first semester Spanish course at Gateway Technical College and is designed for those students with little or no previous knowledge of the Spanish language and for native Spanish speakers who would like to improve their grammar, reading, and writing. Classes will include an extensive study of basic vocabulary and grammatical structures as well as cultural studies of both Spain and Latin America. All Spanish classes taught at Gateway are immersion classes. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**802-125**
**SPA II: Second Semester Spanish          4.00**

Spanish II is a continuation of Spanish I and will continue to emphasize the development of all basic language skills: listening comprehension, speaking, reading, and writing. Spanish II is the second semester Spanish course at Gateway Technical College and is designed for those students who have completed Spanish I at Gateway or another college/university and for native Spanish speakers who would like to improve their grammar, reading, and writing. Classes will include an extensive study of basic vocabulary and grammatical structures as well as cultural studies of both Spain and Latin America. All Spanish classes taught at Gateway are immersion classes. PREREQUISITES: 802-111 or 802-124 - SPA I: First Semester Spanish with a minimum grade of C

**802-126**

**Spanish for Healthcare Providers    3.00**

In this course, students examine language that helps them become culturally-competent healthcare workers. A variety of cultural competencies are presented. Rudimentary grammar and basic vocabulary related to the healthcare environment are practiced. The course is taught primarily in English and is designed for health care students, but all students of the Spanish language will benefit from the content. Upon completion of the course students will be able to deliver basic healthcare service that meets the social, cultural, and linguistic needs of Hispanics.

**804-107**

**College Mathematics    3.00**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between U.S. and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and

analyzing data. PREREQUISITES: 834-109 - Pre-Algebra with a minimum grade of C or TR or achieve the required placement test score

**804-113**

**College Technical Math 1A    3.00**

In this course, topics include: solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percents; proportions; and operations on polynomials. Emphasis will be placed on the application of skills to technical problems. Successful completion of College Technical Math 1-A and College Technical Math 1-B is the equivalent of College Technical Math 1. PREREQUISITES: 834-110 - Elementary Algebra with Applications or achieve the required placement test score

**804-115**

**College Technical Math 1    5.00**

Topics include: solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. This course is the equivalent to College Technical Math 1A and College Technical Math 1B. PREREQUISITES: 834-110 - Elementary Algebra with Applications with a minimum grade of C or TR or achieve the required placement test score

**804-133**

**Mathematics and Logic    3.00**

Students will apply mathematical problem solving techniques. Topics will include symbolic logic, sets, algebra, Boolean algebra, and number bases. PREREQUISITES: 834-110 - Elementary Algebra with Applications with a minimum grade of C or meet the required placement test score

**804-135**

**Quantitative Reasoning    3.00**

This course is intended to develop analytic reasoning and the ability to solve quantitative problems. Topics to be covered may include: construction and interpretation of graphs; descriptive statistics; geometry and spatial visualizations; math of finance; functions and modeling; probability; and logic. Appropriate use of units and dimensions, estimates, mathematical notation, and available technology will be emphasized throughout the course. PREREQUISITES: 834-109 - Pre-Algebra with a minimum grade C

**804-181**

**Calculus 2    4.00**

Students will develop techniques for differentiation and integration of transcendental functions and use the derivative and the integral to solve certain applied problems. They will also extend calculus techniques to curves in polar coordinates and three-dimensional surfaces and form a basic understanding of infinite series and associated applications. PREREQUISITES: 804-198 - Calculus 1 with a minimum grade C

**804-182**

**Calculus 3    4.00**

Students will parameterize curves and polar coordinates, vectors in the plane and in space, vectors and analytical geometry in space, vector valued functions and motion in space, multivariable functions and their partial derivatives, evaluate multiple integrals. PREREQUISITES: 804-181 - Calculus 2 with a minimum grade of C or TR

**804-189**

**Statistics, Introductory    3.00**

Students taking Introductory Statistics display data with graphs, describe distributions with numbers perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships including ANOVA. PREREQUISITES: 834-110 - Elementary Algebra with Applications or 804-107 - College Mathematics 804-123 or 804-135 - Quantitative Reasoning with a minimum grade of C or TR

**804-197**

**College Algebra and Trigonometry with Applications    5.00**

This course covers those skills needed for success in Calculus and many application areas on a baccalaureate level. Topics include the real and complex number systems, polynomials, exponents, radicals, solving equations and inequalities (linear and nonlinear), relations and functions, systems of equations and inequalities (linear and nonlinear), matrices, graphing, conic sections, sequences and series, combinatory and the binomial theorem. PREREQUISITES: 804-114 or 804-115 - College Technical Math 1 with a minimum grade of C

**804-198**
**Calculus 1**                                    **4.00**

Students analyze and graph algebraic expressions, especially conic sections, develop an intuitive understanding of limits, derivatives, and integrals, and apply the derivative and integral to certain physical problems. PREREQUISITES: 804-197 - College Algebra and Trigonometry with Applications with a minimum grade of C

**804-370**
**Mathematics I/Applied**                  **2.00**

Reviews the four basic mathematical operations on whole numbers, fractions and decimals. Also covers basic algebra and trigonometry related to technical fields. PREREQUISITES: 854-760 - Mathematics/ Pre Technical with a minimum grade of C or meet placement test

**804-371**
**Mathematics II/Applied**                 **1.00**

Covers geometric principles along with calculations of linear, area and volume measurements. Includes interpreting and sketching graphs, the metric system, a method to solve technical conversions problems, and an introduction to statistics. PREREQUISITES: 804-370 - Mathematics I/ Applied with a minimum grade of C or meet placement test score

**804-502**
**Math 1 for Apprentice**                  **1.00**

This course will cover fractions, decimal fractions, linear measurements (English and metric).

**804-507**
**Intro to Math Apprenticeship**          **1.00**

This course will provide a foundation in the fundamentals of the application of mathematics. Emphasis is placed on achieving an understanding of general mathematical concepts, applications for the English and metric systems, direct measurement, algebra, and plane geometry. Each section will provide the student with the opportunity to apply mathematics to a practical shop situation.

**804-509**
**Algebra Apprenticeship**                 **1.00**

This beginning course covers basic mathematical operations applied to signed numbers and algebraic functions. Factoring linear and quadratic equations are included. Verbal problems, formulas, and formula manipulation are stressed.

**804-999**
**Math Elective Credit**                   **3.00**

This course is used to award up to 12 credits to students transferring to Gateway without a previous Associates degree or higher. This credit can only be used to fulfill program elective requirements and cannot be used as a substitute for any other course.

**806-102**
**Environmental Chemistry**               **4.00**

This course is intended to provide students with a basic understanding of the chemical reactions and interactions that occur in the environment and the effect these chemicals have on the environment. Specifically, this course will examine atmospheric, water, and soil chemistry principles. Students will develop skills for sampling, quantitative detection and data analysis. Students will

gain an understanding of biogeochemical cycles and human impact on these cycles. PREREQUISITES: 804-107 - College Mathematics with a minimum grade of C or TR

**806-105**
**Principles of Animal Biology**          **4.00**

Introductory course focusing on general biological principles, cell structure and function, genetics, comparative anatomy and physiology, evolution, and ecosystems. Includes dissection of various fresh and preserved materials. This course is appropriate for OTA, AODA and other allied health students.

**806-112**
**Principles of Sustainability**          **3.00**

Prepares the student to develop sustainable literacy, analyze the interconnections among the physical and biological sciences and environmental systems, summarize the effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce the use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal and recycling in the U.S., and analyze approaches used by your community to promote and implement sustainability. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**806-114**
**General Biology**                        **4.00**

This course introduces general biological concepts and principles. Emphasis is on cell

structure and function, genetics, evolution, and taxonomical relationships. Consideration is also given to diversity among the various kingdoms.

**806-127**
**Chemistry 1**                            **4.00**

Fundamental concepts of inorganic chemistry. Emphasizes learning the basic principles and quantitative measurements used in chemistry. Consists of three hours of lecture and one, two-hour laboratory period per week. PREREQUISITES: 804-197 - College Algebra and Trigonometry with Applications or course 804-135 - Quantitative Reasoning Quantitative Reasoninng

**806-129**
**Chemistry 2**                            **4.00**

Further study of basic chemical principles (e.g. atomic and molecular structure, reactions, stoichiometry, thermochemistry, and acid/base chemistry) and the application of these principles, including chemical equilibria and kinetics. Introduces properties, structures, and reactions of organic compounds. Elementary aspects of biochemistry are considered. PREREQUISITES: 806-127 - Chemistry 1 Chemistry 1 with a minimum grade of C

**806-134**
**General Chemistry**                      **4.00**

This course covers the fundamentals of chemistry. Topics covered include the metric system, problem solving, periodic relationships, chemical reactions, chemical equilibrium, properties of water, acids, bases, and salts, and gas laws.

PREREQUISITES: 804-107 - College Mathematics, 804-113 - College Technical Math 1A, 804-115 - College Technical Math 1, 804-123, 804-133 - Mathematics and Logic, 803-189, 804-197 - College Algebra and Trigonometry with Applications, 804-198 - Calculus 1, 804-370 - Mathematics I/ Applied or 804-371; or placement test score

**806-143**
**College Physics 1**                    **3.00**

This course presents the applications and theory of basic physics principles. It emphasizes problem solving, laboratory investigation, and applications. Topics include laboratory safety, unit conversions and analysis, kinematics, dynamics, work, energy, power, temperature, and heat. PREREQUISITES: 804-113 - College Technical Math 1A or 804-115 - College Technical Math 1

**806-154**
**General Physics 1**                    **4.00**

This course presents the applications and theory of basic physics principles. It emphasizes problem solving, laboratory investigation, and applications. Topics include unit conversion and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves. PREREQUISITES: 804-114 or 804-115 - College Technical Math 1

**806-172**
**Basic Nutritional Science**           **3.00**

This course provides an introduction into the science of nutrition. Basics concepts related to digestion and metabolism are presented.

The significance of carbohydrates., lipids, proteins and vitamins to the human ogranism are discussed. The relationship of proper nutrition to selected pathological conditions throughout the human lifecycle is presented. The concept of sustainability and environmentally - conscious food production introduced.

**806-177**
**General Anatomy and Physiology**      **4.00**

This course examines the basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare health care professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision making and professional communication with colleagues and patients.

**806-179**
**Anatomy and Physiology, Advanced  4.00**

Advanced Anatomy and Physiology is the second semester in a two semester sequence in which normal human anatomy and physiology are studied, using a body systems approach, with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Instruction is delivered both within a classroom and in a laboratory setting. Experimentation within a science lab includes analysis of cellular metabolism and the individual components of body systems, such as the nervous, neuro-muscular, cardiovascular, and urinary systems. Students examine homeostatic mechanisms

and their relationship to fluids, electrolytes, acid-base balance, and blood. Integration of genetics to human reproduction and development are also included in this course. PREREQUISITES: 806-177 - General Anatomy and Physiology with a minimum grade of C or TR

**806-184**
**Plant Biology**                        **3.00**

The lecture/laboratory course provides students with an indepth study of the plant kingdom. The content includes, but is not limited to, plant cell anatomy and physiology, plant genetics, plant classification, plant anatomy and physiology, plant resourses, plant life cycles, and ecology. A survey of viruses, prokaryotes, protista, and fungi as they pertain to plants is presented.

**806-186**
**Biochemistry/Introduction**           **4.00**

This introductory course is designed for students in health sciences. Selected topics of inorganic and organic chemistry are applied to fundamental areas of biochemistry. Units of study include carbohydrates, lipids and proteins, enzymes, nucleic acids, bioenergetics, metabolic pathways, and body fluids. PREREQUISITES: 806-134 - General Chemistry

**806-189**
**Anatomy, Basic**                       **3.00**

This course examines concepts of anatomy and physiology as they relate to health careers. Learners correlate anatomical and physiological terminology to all body systems.

**806-197**
**Microbiology**                         **4.00**

Topics include structure and functions of microorganisms, microbial control, infectious diseases, immunity and resistance to disease, problems of sanitation and control in relation to microbiology of air, water, food and sewage. This course is equivalent to 806-197 at other WTCS schools. PREREQUISITES: 806-177 - General Anatomy and Physiology or 806-105 - Principles of Animal Biology with a minimum grade of C or TR

**806-992**
**Science Gen Ed Credit**               **3.00**

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher. This credit is then substituted for general education coursework in the 806 area.

**806-993**
**Science Gen Ed Credit**               **3.00**

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher. This credit is then substituted for general education coursework in the 806 area.

**806-994**
**Science Gen Ed Credit**               **3.00**

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher. This credit is then substituted for general education coursework in the 806 area.

**806-999**
**Science Elective Credit** 3.00

This course is used to award up to 12 credits to students transferring to Gateway without a previous Associates degree or higher. This credit can only be used to fulfill program elective requirements and cannot be used as a substitute for any other course.

**809-112**
**Principles of Sustainability** 3.00

Prepares the student to develop sustainable literacy, analyze the interconnections among the physical and biological sciences and environmental systems, summarize the effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce the use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal and recycling in the U.S., and analyze approaches used by your community to promote and implement sustainability. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**809-128**
**Marriage and Family** 3.00

This course introduces the student to the sociological aspects of marriage and family life in contemporary American society. Emphasis is on the study of cognitive, emotional, and behavioral patterns associated with courtship, love, mate selection, sexuality, and marriage. Moreover, it discusses the life span development in the family life cycle, balancing work and family, and parenting. This course is based on the premise that human attitudes, feelings, and behaviors are largely shaped and influenced by philosophy, gender, communication, and personal beliefs. Therefore, success in the institutions of marriage and family require knowledge and skills in the roles of spouse and parent and ways to apply concepts to daily life. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**809-143**
**Microeconomics** 3.00

This course examines the behavior of individual decision makers, primarily consumers and firms. Topics include choices of how much to consume and to produce, the functioning of perfectly and imperfectly competitive markets, the conditions under which markets may fail, and arguments for and against government intervention. The student applies the fundamental tools of economics to real world problems. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**809-144**
**Macroeconomics** 3.00

Macroeconomics is an introductory course. Basic social choices regarding economic systems, basic economic aggregates, fiscal policy, the banking system, monetary policy, and international trade are the principle topics discussed in the course. Balance is drawn between theory, analysis, and a critique of the institutions that characterize modern mixed-capitalist economies. Conflicting social goals, economic constraints, and environmental concerns provide the framework through which macroeconomy is analyzed. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**809-159**
**Psychology, Abnormal** 3.00

This course in abnormal psychology surveys the essential features, possible causes, and assessment and treatment of the various types of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Students will be introduced to the diagnosis system of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). In addition, the history of the psychology of abnormality will be traced. Cultural and social perspectives in understanding and responding to abnormal behavior will be explored as well as current topics and issues within abnormal psychology. PREREQUISITES: 809-198 - Psychology, Introduction to

**809-166**
**Ethics: Theory and Applications, Intro to** 3.00

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social, and/or professional standards of behavior and apply a systematic decision-making process to these situations. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**809-172**
**Diversity Studies, Introduction to** 3.00

Race, Ethnic, and Diversity Studies is a course that draws from several disciplines to reaffirm the basic American values of justice and equality by teaching a basic vocabulary, a basic history of immigration and conquest, principles of transcultural communication, legal liability, and the value of aesthetic production to increase the probability of respectful encounters among people. In addition to an analysis of majority/minority relations in a multicultural context, the topics of ageism, sexism, gender differences, sexual orientation, people with disabilities, and the Americans with Disabilities Act (ADA) are explored. Ethnic relations are studied in global and comparative perspectives. PREREQUISITES: 838-105 - Reading and Study Skills, Intro with a minimum grade of C or TR or achieve the required placement test score

**809-188**
**Psychology, Developmental** 3.00

Developmental Psychology is the study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills will enable students to gain an increased knowledge and understanding of themselves and others. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**809-195**
**Economics** 3.00

An introductory course which describes, analyzes, and critiques factors which influence the overall performance of the economic system. Topics include supply-demand analysis, national income determination models, fiscal and monetary policy, money, financial institutions, the federal reserve system, unemployment, poverty, international trade, economic growth, inflation, and environmental

deterioration. The links between economic problems, theory, and public policy are emphasized. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**809-196**
**Sociology, Introduction to** 3.00

This course examines interpersonal relationships of humans and groups and the consequent structure of society. It details the various social processes and concepts which shape human behavior, analyzing such phenomena as organizations, deviance, race and ethnic relations, population, urbanization, social change, and social movements. Religion, education, and the family are studied. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**809-198**
**Psychology, Introduction to** 3.00

This course introduces students to some of the major theories and topics of psychology, including the physiological basis of behavior, personality and learning theories, memory, states of consciousness, stress, research methods, intelligence, human development, psychopathology, and social behavior. PREREQUISITES: 838-105 - Reading and Study Skills, Intro or achieve the required placement test score

**809-991**
**Social Science General Education Credit** 3.00

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher.

This credit is then substituted for general education coursework in the 809 area.

**809-992**
**Social Science General Education Credit** 3.00

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher. This credit is then substituted for general education coursework in the 809 area.

**809-993**
**Social Science General Education Credit** 3.00

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher. This credit is then substituted for general education coursework in the 809 area.

**809-994**
**Social Science General Education Credit** 3.00

This course is used to award up to 6 credits to students transferring to Gateway with a previous Associates degree or higher. This credit is then substituted for general education coursework in the 809 area.

**809-999**
**Social Science Elective Credit** 3.00

This course is used to award up to 12 credits to students transferring to Gateway without a previous Associates degree or higher. This credit can only be used to fulfill program elective requirements and cannot be used as a substitute for any other course.

**831-103**
**College Writing, Intro** 3.00

Introduces basic principles of composition, including organization, development, unity, and coherence in paragraphs and multi-paragraph documents. PREREQUISITES: 851-769 or 851-756 - Foundations of Writing with a minimum grade of C or TR or achieve the required placement test score

**831-107**
**College Reading and Writing 1** 5.00

In this course, students examine the relationship between writer, reader, text, and purpose. Students apply reading comprehension strategies as they use a text's features and content to determine the writer's message and purpose. Students apply writing conventions as they analyze their purpose for writing and design texts with features and content that makes their ideas clear to the reader. Upon completion of this course, students will be able to explain the ideas expressed in readings, and they will be able to express their own ideas in written texts. PREREQUISITES: Meet placement test exams for Reading and Writing

**834-109**
**Pre-Algebra** 3.00

Provides an introduction to algebra. Includes operations on real numbers, solving linear equations, percent and proportion, and an introduction to polynomials and statistics. Prepares students for elementary algebra and subsequent algebra related courses. PREREQUISITES: 854-760 - Mathematics/ Pre Technical with a minimum grade of C or TR or achieve the required placement test score

**834-110**
**Elementary Algebra with Applications** 3.00

This course offers traditional algebra topics with applications. Learners develop algebraic problem solving techniques needed for technical problem solving and for more advanced algebraic studies. Topics include linear equations, exponents, polynomials, rational expressions, and roots and radicals. Successful completion of this course prepares learners to succeed in technical mathematics courses. COREQUISITES: 834-109 - Pre-Algebra with a minimum grade of C or TR, or achieve the required placement test score

**835-104**
**College Success** 2.00

This course provides learners with strategies to develop skills for success in college. Learners will apply self management techniques, explore resource management strategies, and learn about ways to improve personal effectiveness.

**836-113**
**Biology, Basic Prep** 2.00

Introduces learners to basic principles of biology. Students will become familiar with the nature of science, basic biochemistry concepts, and the structure and function of a cell.

**836-133**
**Prep for Basic Chemistry** 2.00

Introduces basic principles of chemistry including the properties of matter, atomic structure, and the classification of chemical reactions. Students learn to characterize solutions, acids, and bases, and differentiate between elements and compounds.

**838-105**
**Reading and Study Skills, Intro**    3.00

This course provides learners with opportunities to develop study skills and expand reading skills including comprehension, fluency, and vocabulary skills. Learners apply reading skills to academic tasks and read to acquire information from a variety of sources. PREREQUISITES: 858-760 or achieve the required placement test score

**851-756**
**Foundations of Writing**    1.00

In this course, students will develop the writing skills needed in Intro to College Writing. Students will learn to structure effective sentences and compose unified, coherent paragraphs using the writing process. PREREQUISITES: 851-760 or achieve the required placement test score

**851-760A**
**Communications Skills/**
**Pre Technical**    1.00

**851-761**
**Pre-Tech Vocational**
**Communications**    2.00

In this class, you will learn to use English to achieve academically in Gateway vocational programs. Advanced ESL students will learn to: use English to interact in the college classroom, provide subject matter information in spoken and written form, and use learning strategies to better understand academic knowledge taught at Gateway vocational classrooms. Your English language skills will grow as you gain the self-confidence to succeed in college courses.

**851-764**
**Communication Skills Review**    1.00

**854-760**
**Mathematics/Pre Technical**    2.00

Pre-Technical Mathematics is a course designed to enable students to improve and enhance their mathematical skills in order to deal more effectively with mathematics in a future program. Material to be covered includes basic operations with fractions, decimals, and percents. Also included will be work with pre-geometry (measurement involving perimeter, circumference, area and volume). PREREQUISITES: 854-750 - Mathematics 200 with a minimum grade of C or TR or achieve the required placement test score

**854-761**
**Algebra/Pre Technical**    2.00

A basic algebra course which covers algebraic expressions, polynomials, factoring, operations with integers, solving equations, and word problems. PREREQUISITES: 854-760 - Mathematics/Pre Technical with a minimum grade of C or TR or achieve the required placement test score

**854-763**
**Mathematics Review**    1.00

**854-765**
**Mathematics Review for the**
**Sciences**    1.00

**854-766**
**Algebra Review**    1.00

**854-769**
**Algebra Pre-College**    2.00

Pre College Algebra is a beginning and/or review course which prepares the student for college level mathematics. The course covers basic mathematical operations applied to signed numbers and algebraic functions and also includes operations with polynomials. Factoring, linear and quadratic equations, formulas, and formula manipulation are also included. PREREQUISITES: 854-761 - Algebra/Pre Technical with a minimum grade of C or TR or achieve the required placement test score

**856-760**
**Science/PreTechnical**    2.00

**856-760A**
**Science/Pretechnical Review - Animal Biology**    1.00

This course is a review of basic scientific concepts and scientific method in the areas of animal biology, to prepare students for postsecondary science courses.

**856-760B**
**Science/Pretechnical Review - Plant Biology**    1.00

This course is a review of basic scientific concepts and scientific method in the field of plant biology, to prepare students for postsecondary science courses.

**861-131**
**Beginning Reading and Vocabulary**  4.00

In this course, students will use beginning reading strategies, such as activating prior knowledge, pre-learning vocabulary, skimming and scanning, to increase reading comprehension and speed in academic and professional settings. Students will examine both oral and silent reading strategies, along with memory training techniques. Students will explain beginning graphs, tables and diagrams. Students will increase beginning vocabulary, develop word comprehension strategies and use multimedia resources, such as dictionaries and glossaries. Upon completion of the course, students will be able to read and summarize short beginning academic and nonfiction texts by paraphrasing orally and in writing. Students will be able to use basic reading and vocabulary strategies, along with memory techniques, to study and prepare for exams.

**861-132**
**Beginning Grammar and Writing**    4.00

In this course, students will learn to use several basic sentence structures to compose paragraphs using the standard American rhetorical style. Students will acquire beginning grammar, punctuation and spelling skills to write for some academic and professional settings. Upon completion of the course, students will be able to write single paragraphs using the writing process. They will edit their writing, and produce grammatically correct sentences, combined into well-structured pragraphs. They will demonstrate knowledge of some standard punctuation and spelling rules. Students will be able to write beginning paragraphs both in and out of class.

**861-133**
**Beginning Speaking / Pronunciation 4.00**

In this course, students will learn and practice conversational skills with partners, in small groups, and will begin to speak in front of the class. Students will acquire skills to give short academic presentations. Students will develop beginning level pronunciation knowledge, awareness and skills for clear communication. Students will clarify understanding using beginnning communication strategies. They will ask and answer questions about themselves and their opinions. Upon completion of the course, students will be able to speak clearly with one or more conversational partners in some academic and professional settings. They will be able to prepare and deliver a beginning level presentation.

**861-134**
**Beginning Listening and Note Taking 4.00**

In this course, students will learn and practice beginning active listening skills with a partner, in a small group and in front of the class. Students will distinguish elements of beginning communication situations. Students will acquire beginning skills to listen and respond in real time with some prior knowledge and preparation. Students will use a variety of note-taking techniques to practice basic organization and main points in listening comprehension. They will demonstrate beginning listening comprehension by creating graphic formats relevant to lecture topics. Upon completion of the course, students will be able to listen and demonstrate beginning comprehension of a conversation with one or more partners and in front of the class. Students will be able to listen and respond to multimedia presentations for beginning academic and professional situations. Students will restate

understanding orally and in writing and clarify comprehension gaps.

**861-135**
**Beginning American College Culture 4.00**

In this course, students will integrate their beginning skills in reading, vocabulary, writing, grammar, speaking, and listening to acquire basic knowledge of the Americn College Culture and improve study skills. They will explore beginning higher education vocabulary and college student roles. They will be introduced to American societal rules and perceptions about personal responsibility, especially in the higher education context. Students will interact with the American College Culture in real time in person. Upon completion of the course, students will be able to successfully navigate college interactions in person. With preparation and support, students will be able to basic ask questions, seek answers, summarize interaction outcomes and formulate follow up questions and actions. Students will also be able to demonstrate beginning personal effectiveness in the American College Culture through the use of several study techniques for learning, memory and test preparation.

**861-141**
**Intermediate Reading/Vocabulary 4.00**

In this course, students will use reading strategies, such as skimming and scanning, to increase reading comprehension and speed in academic and professional settings. Students will examine both oral and silent reading strategies, along with memory training techniques. Students will acquire skills to draw inferences and conclusions, and to distinguish fact from opinion. Students will interpret graphs, tables and

diagrams. Students will increase vocabulary, develop word comprehension strategies and use multimedia resources, such as dictionaries and glossaries, independently. Upon completion of the course, students will be able to read and summarize academic and nonfiction texts by paraphrasing orally and in writing. Students will be able to use reading and vocabulary strategies, along with memory techniques, to study and prepare for exams.

**861-142**
**Intermediate Grammar and Writing 4.00**

In this course, students will learn to use a variety of effective sentence structures to compose unified, coherent paragraphs using the standard American rhetorical style and will write multi-paragraph documents. Students will acquire intermediate grammar, punctuation and spelling skills to write clearly and effectively in academic or professional settings. Students will be introduced to American academic standards of intellectual property. Upon completion of the course, students will be able to write multiple drafts using the writing process, edit writing, and produce grammatically correct sentences, well-structured paragraphs and 5-paragraph essays utilizing standard punctuation and spelling rules. Students will be able to write paragraphs and essys both in and out of class. Students will be able to define American concepts of intellectual property, includign citations, and plagiarism.

**861-143**
**Intermediate Speak/Pronunciation 4.00**

In this course, students will learn and practice conversational skills with a partner, in a small group and will speak in front of the class. Students will acquire skills to speak

extemporaneously and with preparation, including multimedia presentation tools. Students will develop intermediate level pronunciation knowledge, awareness and skills for clear communication. Expanding idiomatic language, students will develop paraphrasing techniques and the ability to express both facts and opinions. They will explore speaking strategies that show awareness of culture and bias. Upon completion of the course, students will be able to speak clearly and confidently with one or more conversational partners in academic and professional settings. they will be able to speak extemporaneously and prepare and give an intermediate level presentation.

**861-144**
**Intermediate Listen/Note-Taking 4.00**

In this course, students will learn and practice active listening skills with a partner, in a small group and in front of the class. Students will anaylze elements of communication situations, including nonverbals, gender and cultural differences. Students will acquire skills to listen and respond in real time with and without prior knowledge and preparation. Students will develop a variety of note-taking techniques to increase speed and accuracy in listening comprehension. They will demonstrate listening comprehension by paraphrasing in speaking and writing. Upon completion of the course, students will be able to listen and demonstrate comprehension of a conversation with one or more partners and in front of the class. Students will be able to listen and respond to multimedia presentations for academic and professional situations. Students will be able to distinguish between facts and opinions and interpret nonverbal communication and body language.

**861-145**
**Intermediate American College Culture** 4.00

In this course, students will integrate their skills in reading, vocabulary, writing, grammar, speaking, and listening to acquire knowledge of the American College Culture and improve study skills. They will explore higher education vocabulary and college student roles. They will learn American societal rules and perceptions about personal responsibility, dependence, independence, interdependence, passivity, aggression and assertiveness. Students will interact with the American College Culture in realtime in person, by phone and online. Students will be able to ask questions, seek answers, summarize interaction outcomes and formulate follow up questions and actions. Students will also be able to demonstrate personal effectiveness in the American College Culture through the use of a variety of study techniquesfor learning, memory and test preparation.

**861-151**
**Advanced Reading and Vocabulary** 4.00

In this course, students will use advanced reading strategies, such as connecting prior knowledge and context, to increse reading comprehension and speed in academic and professional settings. Students will examine both oral and silent reading strategies, along with memory training techniques. Students will make inferences and conclusions, and distinguish fact from opinion. Students will interpret graphs, tables and diagrams. Students will increase vocabulary, use word comprehension strategies and multimedia resources, such as dictionaries and glossaries, independently. Upon completion of the course, students will be able to read and summarize academic and nonfiction texts by paraphrasing orally and in writing.

Students will be able to use advanced reading and vocabulary strategies along with memory techniques to student and prepare for exams.

**861-152**
**Advanced Grammar and Writing** 4.00

In this course, students will learn to use a variety of effective sentence structures to compose unified, coherent paragraphs using the standard American rhetorical style and will write multi-paragraph documents and essays. Students will acquire advanced grammar, punctuation and spelling skills to write clearly and effectively in academic or professional settings. Students will practice American academic standards of intellectual property. Upon completion of the course, students will be able to write multiple drafts using the writing process, edit writing, and produce grammatically correct sentences, well-structure paragraphs and 5-paragraph essays utilizing standard punctuation and spelling rules. Students will be able to write paragraphs and essays both in and out of class. Students will be able to define American concepts of intellectual property, including citations and plagiarism.

**861-153**
**Advanced Speaking and Pronunciation** 4.00

In this course, students will learn and practice advanced conversational skills with partners, in small groups, and will speak in front of the class. Students will acquire skills to speak extemporaneously and with preparation, including using multimedia presentation tools. Students will develop advanced level pronunciation knowledge, awareness and skills for clear communication. Expanding

idomatic language, students will develop paraphrasing techniques and the ability to express both facts and opinions. They will explore speaking strategies that show awareness of culture and bias. Upon completion of the course, students will be able to speak clearly and confidently with one or more conversational partners in academic and professional settings. They will be able to speak extemporaneously and prepare and give an advanced level presentation.

**861-154**
**Advanced Listening and Note-Taking** 4.00

In this course, students will learn and practice advanced active listening skills with a partner, in a small group and in front of the class. Students will analyze elements of communication situtations, including nonverbals, gender and cultural differences. Students will acquire skills to listen and respond in real time with and without prior knowledge and preparation. Students will develop a variety of note-taking techniques to increase speed and accuracy in listening comprehension. They will demonstrate listening comprehension by paraphrasing in speaking and writing. Upon completion of the course, students will be able to listen and demonstrate comprehension of a conversaton with one or more partners and in front of the class. Students will be able to listen and respond to multimedia presentations for academicand professional situations. Students will be able to distinquish between facts and opinions and interpret communication and body language.

**861-155**
**Advanced American College Culture** 4.00

In this course, students will integrate their advanced skills in reading, vocabulary, writing, grammar, speaking, and listening to acquire knowledge of the American college culture and improve study skills. They will explore higher education vocabulary and college student roles. They will learn American societal rules and perceptions about personal responsibility, dependence, independence, interpendence, passivity aggression and assertiveness. Students will interact independently with the American college culture in real time in person, by phone and online. Upon completion of the course, students will be able to successfully navigate college interactions in person, by phone and online. Students will be able to ask questions, seek answers, summarize interaction outcomes and formulate follow up questions and actions. Students will also be able to demonstrate personal effectiveness in the American college culture through the use of a variety of study techniques for learning, memory and test preparation.

**890-100**
**College Success Skills** 1.00

Designed to promote student academic success. Through a variety of awareness activities, students are introduced to study skills, time management techniques, health-related and relationship-building skills, as well as to programs, services, policies and procedures offered by Gateway.

**890-103**
**Employability Skills** 2.00

After completion of course, students will demonstrate positive personal image,

exhibit positive work attitude, practice good work habits and ethical behavior, accept responsibility, and cooperate with others in the workplace.

**890-105**
**Serving to Learn Locally** **2.00**

Students will collaborate with a community partner to design and perform a service project to address a community need. Students will gain an awareness of themselves and their community and develop an understanding of community diversity and civic engagement.

**890-106**
**Serving to Learn Globally** **2.00**

Through immersion in a global community, students will collaborate to identify a need, plan a service, perform the service and/or evaluate the result. They will apply principles of professionalism, team work, and critical thinking, as well as their chosen career's technical knowledge, attitude and skill. Through reflection and dissemination, students will integrate an increased sensitivity to the diversity of the community, global connectivity, civic engagement and their own professional career path.

**890-154**
**Alternative Learning Portfolio** **3.00**

Learner will document proficiency in relevant knowledge and skills to substitute for designated course requirement from sources such as educational experience, work experience, and other personal activities. Course may be substituted for a program requirement at the recommendation of Disability Support Services faculty and

approval of the dean and the provost's office.

**890-156**
**Personal/Professional Success** **1.00**

Learners in this interactive course will develop practical strategies for success to enhance personal and professional effectiveness. Topics will include problem solving, interpersonal skills, self-advocacy, adapting to workplace culture, personal responsibility, and managing transitions. This course can be counted as an elective credit towards your degree requirements at Gateway.

**890-161**
**Critical Thinking** **3.00**

This course will develop students' analytical and creative abilities for enhanced professional and academic performance, and for more positive social interaction. Focus will be on identifying reasoning fallacies, presuppositions of arguments, critical missing information and psychological barriers to sound thinking. The application of critical thinking to problem-solving, persuasion, consumerism and personal philosophy will be an integral part of this course.

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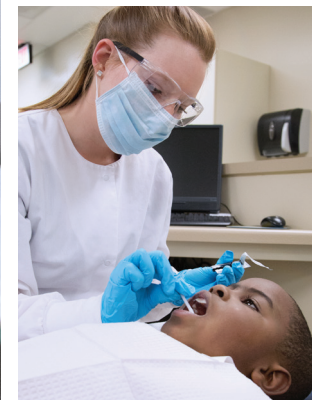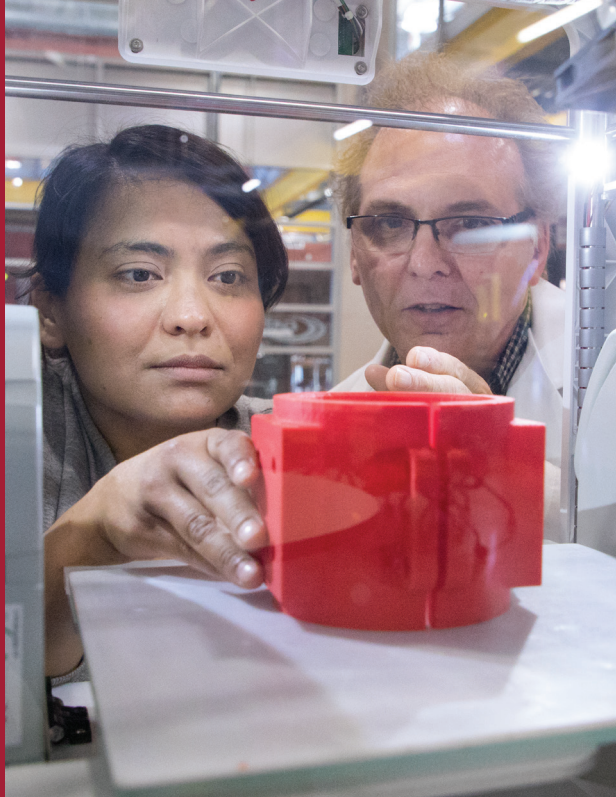Pleasant Prairie, WI 53158-2216

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