GATEWAY
TECHNICAL COLLEGE
NEW
ONLINE
Programs
p.2
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www.gtc.edu

Welcome to Gateway Technical College – your communities' college! Gateway students benefit from our collaboration with communities in Kenosha, Racine, and Walworth counties to ensure economic growth and viability. We will provide you with the education, training, leadership, and community connections you need to meet the changing needs of the job market.

Gateway Technical College is dedicated to putting "Students First." We have focused on the area of Student Success, to ease your way to a quality education. All of us at Gateway recognize that the components of a positive "Gateway Experience" begin with caring instructors, quality up-to-date labs and equipment, hands-on training, and industry-driven curriculum. Student life is also a critical component to a well rounded education. You will have the opportunity to work with your instructors and fellow students, learn about other cultures, and participate in the many activities available through our student and community organizations.

Student professional organizations are a way of expanding your career education. We have dozens of career-specific organizations that offer professional development opportunities as well as service projects that support your communities.You can be part of the fabric of your community by achieving a well-paying, challenging, and enjoyable career through your Gateway education. Gateway creates a win-win situation for its students and its communities. Nothing makes me happier than to attend our graduation where I see thousands of successful individuals who have achieved their goals to move into successful careers that will support them and their families.

At the same time, because the vast majority of Gateway graduates gain employment in Racine, Kenosha, and Walworth counties, I know the communities are a better place because of our graduates. The skills they've achieved will help keep our communities safer, healthier, more productive, and more professional. The quality of our communities is directly related to your success at Gateway.

We invite you to join us for your journey to a successful future!

Bryan D. Albrecht
President
Gateway Technical College

Gateway Technical College District Board of Trustees 2010-11

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, Racine, and Walworth County Boards of Supervisors, and serve staggered three-year terms.

The Gateway Board monthly meetings are open to the public. Information on their meetings can be found at www.gtc.edu/board.

Leslie Scherrer
Walworth County

Ram Bhatia
Racine County

Suzanne Henkel Deans
Racine County

Gary Olsen
Walworth County

R. Scott Pierce
Kenosha County

Neville H. Simpson
Kenosha County

Todd Battle
Kenosha County

Pamela Zenner-Richards
Racine County

Roger Zacharias
Kenosha County

Enjoy the opportunity to complete Gateway courses online.

FOLLETT BOOKSTORES

BOOKS AND MATERIALS

Textbooks, notebooks, paper, pencils, drawing materials, and other supplies required for a program are available at the bookstores on each campus. While it is not mandatory to do so, students may find it advantageous and convenient to purchase the necessary supplies from the Follett Bookstore at each campus. Students may also purchase course materials online using www.follett.com.

BOOKSTORE REFUND POLICY

New or used textbooks may be returned for refund or exchange within seven (7) calendar days from the start of class. Short-term or interim classes have two (2) calendar days from the start of class for refund or exchange, provided:

- books are in purchased condition; shrink wrapped materials and sealed disks or CDs must not be opened.
- dated cash register receipt is required.
- books need to be returned to bookstore where purchased.

If your text is not refundable, it may be eligible for Buy Back. Follett Bookstore buys back texts every day, although the best value is usually at the end of each semester. All other store purchases may be returned for refund or exchange within two (2) calendar days, provided they are in purchased condition and with dated cash register receipt. (Special orders may require payment at time of order and are not eligible for refund.)

For bookstore locations and hours, visit the website at www.gtc.edu/bookstore.

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Information is subject to change and reflects material of record as of July 1, 2010. Updated information will be posted to appropriate locations on Gateway's website www.gtc.edu. Published by the Marketing & Communications Office – Summer 2010, Gateway Technical College.

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www.gtc.edu/witechcolleges

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CAMPUSES

Gateway's three full-service campuses are located in the cities of Elkhorn, Kenosha, and Racine. Gateway also has centers in Burlington, the Horizon Center for Transportation Technology located adjacent to Kenosha Municipal Airport, LakeView Advanced Technology Center in Pleasant Prairie, the Center for Bioscience and Information Technology on the Kenosha Campus, and the Center for Advanced Technology and Innovation at the Renaissance Business Park in Sturtevant, Wisconsin.

Burlington Center
496 McCanna Pkwy.
Burlington, WI 53105-3622
262.767.5200
262.767.5201 FAX
262.767.5206 TTY

Center for Advanced Technology & Innovation
2320 Renaissance Blvd.
Sturtevant, WI 53177-1763
262.898.7500
262.898.7501 FAX

Center for Bioscience and Information Technology
3520 - 30th Avenue
Kenosha, WI 53144-1690
262.564.3600
262.564.3601 FAX

Elkhorn Campus
400 County Road H
Elkhorn, WI 53121-2046
262.741.8200
262.741.8201 FAX
262.741.8206 TTY

HERO Center
380 McCanna Pkwy.
Burlington, WI 53121-2046
262.767.5204
262.767.5209 FAX

Horizon Center for Transportation Technology
4940 - 88th Avenue
Kenosha, WI 53144-7467
262.564.3900
262.564.3901 FAX

Kenosha Campus
3520 - 30th Avenue
Kenosha, WI 53144-1690
262.564.2200
262.564.2201 FAX
262.564.2206TTY

LakeView Advanced Technology Center
9449 - 88th Avenue (Highway H)
Pleasant Prairie, WI 53158-2216
262.564.3400
262.564.3401 FAX

Racine Campus
1001 South Main Street
Racine, WI 53403-1582
262.619.6200
262.619.6201 FAX
262.619.6206 TTY

Administration Center
3520 - 30th Avenue
Kenosha, WI 53144-1690
262.564.3300
262.564.3301 FAX
262.564.2816 TTY

WGTD-FM 91.1
3520 - 30th Avenue
Kenosha, WI 53144-1690
262.564.3800
262.619.6800
262.564.3801 FAX

Gateway - Your Community Technical College

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 sixteen technical college districts which comprise the Wisconsin Technical College System. Gateway is a taxpayer-supported institution of postsecondary education, offering more than 60 degree and diploma programs, as well as nearly 50 certificate programs. 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.

In addition, a wide variety of Adult Continuing Education (ACE) noncredit classes, workshops, and seminars are offered to assist Gateway District residents in expanding and augmenting occupational skills, or to assist in improvement of their chosen lifestyles. Gateway also provides instruction for English Language Learners (ELL), GED/HSED, Adult Basic education and college preparation through the Adult Learning Centers at each campus.

OUR STRATEGIC DIRECTION
The Gateway Technical College District Board of Trustees sets our strategic direction.

Gateway Technical College is a key academic enterprise that serves Southeastern Wisconsin. By engaging in innovative higher education and technical training programs, as well as a variety of community partnerships, the tri-county community will utilize Gateway as a premiere resource for workforce education.

1. Gateway provides academic programs and services that meet the current and future postsecondary technical education needs of our tri-county community and assists in the preparation and transition of all learners.

2. Gateway provides innovative and entrepreneurial programs and services that align with the educational, economic, and tri-county community needs for students' regional and global competitiveness.

3. Gateway provides leadership in tri-county community and workforce development through collaborative partnerships with business, industry, labor, and community organizations to support economic development, keeping in mind the desire not to duplicate services for an efficient use of taxpayer dollars.

4. Gateway models integrity, social responsibility, and continuous improvement in its internal and external processes and relationships.

5. Gateway provides a positive return on taxpayer and community investment by leveraging its core capabilities in a financially and socially responsible manner.

MISSION STATEMENT
We collaborate to ensure economic growth and viability by providing education, training, leadership, and technological resources to meet the changing needs of students, employers, and communities.

OUR VISION
We are the community technical college of choice for academic achievement, occupational advancement, and personal development.

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.

EDUCATIONAL 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 forty-five (45) credits or more. General education gives students effective communication, mathematics, scientific thinking, and global social skills.

HISTORY – A Century of Learning
Original state legislation establishing adult and vocational education was enacted in 1911. The first technical school in Wisconsin, the nation's first publicly supported technical institution, began that same year in downtown Racine as the name predecessor to Gateway Technical College.

A state-sanctioned technical school opened in Kenosha in 1912. Kenosha County established the first Vocational, Technical and Adult Education District under state law in 1965, which allowed district formation beyond city limits on July 1, 1966.

Walworth County joined the Kenosha District in 1967 to form District 6, and the City of Racine expanded services on July 1, 1967 to include Racine County. On July 1, 1971, the Vocational, Technical and Adult Education District 6 was formed, comprised of Kenosha, Racine, and Walworth counties. In 1994, the state technical college system became the Wisconsin Technical College System.

The name "Gateway" was adopted October 19, 1972, by the District Board for the Gateway District, replacing reference to District 6, with campuses at Elkhorn, Kenosha, and Racine. As was the case in 1911, Gateway today continues to meet the need for skilled workers in technical-oriented fields.

ACCREDITATION

All Gateway campuses are regionally accredited by the Higher Learning Commission, North Central Association.

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 sites in Kenosha, Racine, and Walworth counties are regionally accredited by the Higher Learning Commission. Six programs are approved for fully online delivery by the HLC: Accounting, Graphic Communication, Instructional Assistant, IT Web Developer/Administrator, Supervisory Management, and Technical Communication. Higher Learning Commission, North Central Association, 30 North LaSalle Street, Suite 2400, Chicago IL 60602-2504, phone 312-263-0456. www.higherlearningcommission.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 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 National League for Nursing Accrediting Commission, Inc., 3343 Peachtree Rd. NE, Suite 500, Atlanta GA 30326, phone 404-975-5000, www.nlnac.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 www.dhfs.state.wi.us.

- 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, 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 of Community Colleges
- American Association for Women in Community Colleges
- American Association of Collegiate Registrars & Admission Officers
- American Association of University Women
- American College & University Presidents Climate Commission
- American Physical Therapy Association
- American Society of Interior Designers
- American Welding Society
- Association for Career & Technical Education
- Association for Computer Operations Managers
- Association for Institutional Research
- Association of Community College Trustees
- Association of Information Technology Professionals
- Association of Veterans Education Certifying Officials
- Business Educational Partnership Group, Inc.
- Business Industry Consulting Services International
- Commission on Accreditation of Allied Health Education
- Council for Higher Education
- Council of North Central Two-year Colleges
- Council for Resource Development
- Criminal Justice Coordinators Council
- Higher Learning Commission
- Institute of Store Planners
- International Association of Ethics Trainers, Ltd.
- International Graphic Arts Education Association
- International Society for Technology in Education
- Instructional Technology Council
- League for Innovation
- Library Council of SE Wisconsin, Inc.
- Midwest Association of Student Employ ment Administrators
- Midwest Institute for International Inter cultural Education
- National Association of Educational Procurement
- National Association of EMS Educators
- National Association of State Directors of Career and Technical Education Consortium
- National Association of Student Financial Aid Administrators

- National Association for Technical Prep Leadership
- National Association of Veterans Program Administration
- National Business Incubation Association
- National Coalition of Advanced Technology Centers
- National Community College Council for Research & Planning
- National Community College Hispanic Council
- National Cosmetology Association
- National Council for Workforce Education
- National Society of Leadership and Success
- Society for Human Resource Management
- Society for Technical Communication
- Wisconsin Association for Career and Technical Education
- Wisconsin Association of Colleges and Employers, Inc.,
- Wisconsin Association of Collegiate Registrars & Admissions Officers
- Wisconsin Association of Distance Educational Networks
- Wisconsin Association of Public Purchasers
- Wisconsin Association of Student Financial Aid Administrators
- Wisconsin Biotechnology & Medical Device Association
- Wisconsin Broadcasters Association
- Wisconsin Business Incubation Association
- Wisconsin Campus Compact
- Wisconsin Chapter of IACLEA
- Wisconsin Educational Media & Technology Association
- Wisconsin Institute of CPAs
- Wisconsin Student Government
- Wisconsin Technical College Network
- Wisconsin Women in Higher Education Leadership

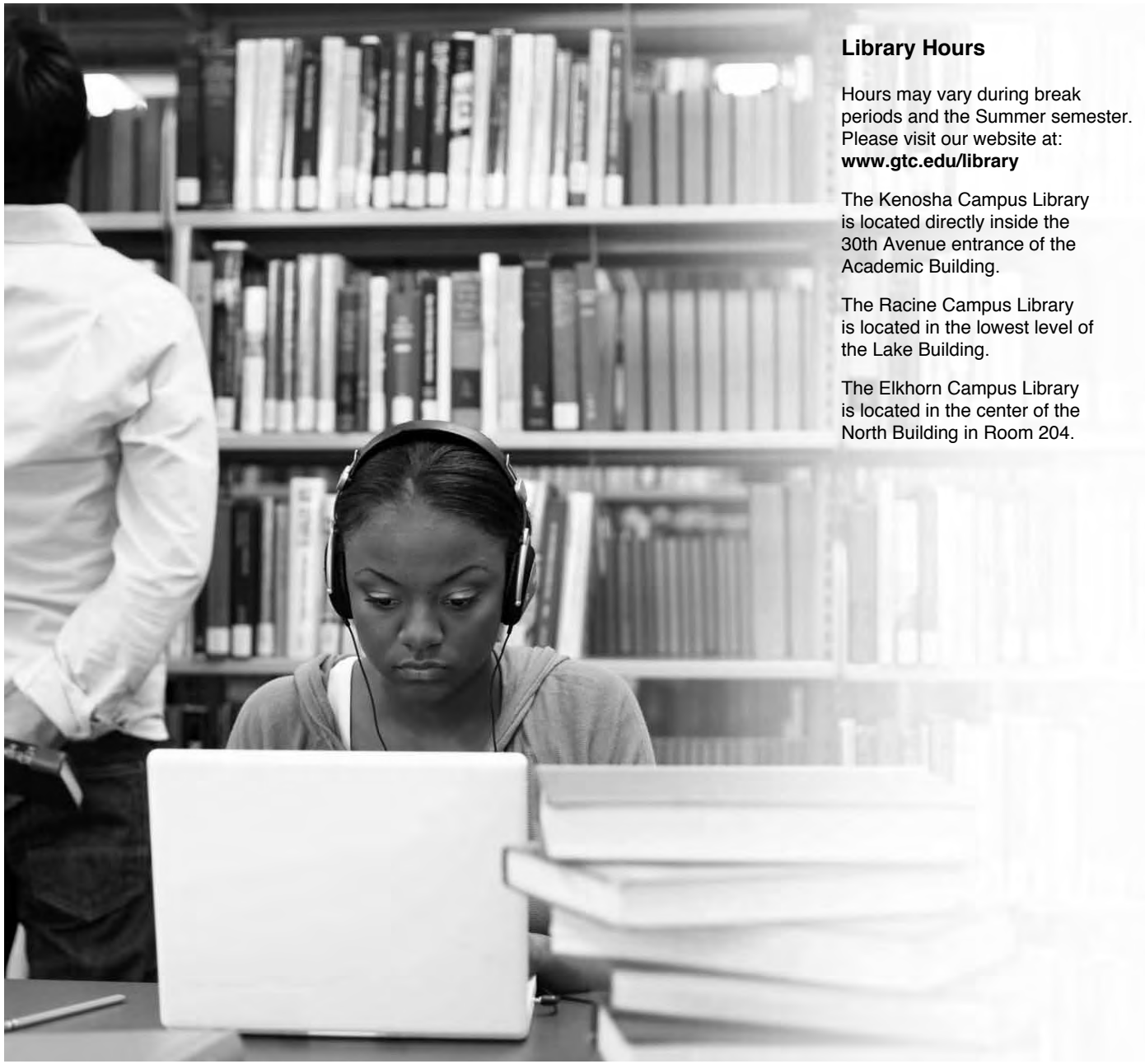
AFFIRMATIVE ACTION / EQUAL OPPORTUNITY

The Gateway Technical College District will be fair and impartial in all its relations with its students, employees, and applicants for employment.

It is the policy of Gateway Technical College not to discriminate in admission to, or participation in, its programs and activities 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 nonunion affiliation, or membership in the National Guard, state defense force, or any reserve component of the military forces of the U.S. or Wisconsin. For information regarding compliance with this policy, contact:

Debbie Miller, Director Human Resources – Employment, Compensation & Benefits
District Affirmative Action Officer - Titles VI, VII & IX
Gateway Technical College
3520 30th Avenue
Kenosha, WI 53144
Phone: 262-564-3220
TTY: 262-564-2816
FAX: 262-564-2161
e-mail: millerd@gtc.edu

Complete information regarding this policy can be found in the Student Handbook and on Gateway's website at www.gtc.edu.



Library Hours

Hours may vary during break periods and the Summer semester. Please visit our website at: **www.gtc.edu/library**

The Kenosha Campus Library is located directly inside the 30th Avenue entrance of the Academic Building.

The Racine Campus Library is located in the lowest level of the Lake Building.

The Elkhorn Campus Library is located in the center of the North Building in Room 204.

Online Courses for Full-Time Lives

With the flexibility and convenience of online courses, you can work full-time and still have time for classes.

Online courses let you:
Schedule your coursework around your life.

See www.gtc.edu
(Choose Academics & Careers)

GENERAL INFORMATION

Gateway continually evaluates program offerings and course content; information contained in this publication should be interpreted only as an overview. Current curriculum sheets on all Gateway degree-granting programs are available at all Student Services offices and via Gateway's web site at www.gtc.edu.

ADMISSIONS

The Gateway District provides an equitable, systematic process for admitting individuals which is consistent with Chapters 38 and 118 of the Wisconsin Statutes and TCS 10 of the Wisconsin Administrative Code that 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 an application is submitted. A student is defined as one who has been accepted to a program and/or enrolled in a course.

STUDENT TYPES

Declared Students

Individuals who have applied to a specific postsecondary program or programs with the intent of completing and graduating from the program(s). Application, application fee, placement testing, and any other identified admission requirements must be completed for admission.

Undeclared Students

Individuals who are degree-seeking but are uncertain of their program choice. Application, application fee, and placement testing are required prior to acceptance and taking courses.

Non-degree Seeking/Special Students

Individuals who want to attend Gateway courses with no intention of completing a program. These individuals may enroll in courses for which all prerequisites have been met. Students seeking this status do not need to complete an application for admission and may register beginning the first day of the open registration window. Placement testing may be required depending on the course(s) selected.

Note: Students who are accepted as undeclared, special, or non-degree seeking are not eligible for federal financial aid.

ADMISSION INTO POSTSECONDARY EDUCATIONAL PROGRAMS

To be accepted to an Associate Degree or Technical Diploma program, applicants must:

1. Submit a completed Application for Admission and submit appropriate application fee, if required.
2. Submit documentation as required by the program. Examples may be, but are not limited to, official high school or GED transcripts, a Background Information Disclosure, or verification of other certification.
3. Take Gateway's placement test.

To be accepted to an Advanced Technical Certificate (ATC) program, applicants must:

1. Submit a completed Application for Admission; there is no application fee.
2. Submit proof of :
   a. completion of a related associate degree through official postsecondary transcripts; or
   b. demonstrate having the equivalent work experience.
   c. other documentation that may be required by the ATC.
3. Meet with program counselor for determination of admission requirements and acceptance.

Withdrawal of Incomplete Application Files

Applications that are incomplete on August 15 for Summer start, November 15 for Fall start, or March 15 for Spring start terms will be deactivated if the applicant is not attending or has not submitted any new requirements within the last 30 days. Those wishing to reenter the program will need to reapply. Submission of new admission requirements may be required. Official program acceptance date for individuals required to reapply will be the date the application file is completed.

ACCEPTANCE STATUS

Full Acceptance Status

For individuals who have met all program admission requirements, and for whom remediation is not required based on placement test results.

Remedial Acceptance Status

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

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 in the last semester of their high school program or the last 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.

Official date of program acceptance is the date Admissions receives official transcripts verifying high school or GED completion. Students accepted conditionally are not eligible for financial aid until the semester following the date Gateway has received official verification of completion of the secondary credential.

PLACEMENT TESTING

All individuals enrolling in Gateway's postsecondary educational programs must take a placement test to assist in their appropriate placement in course work. In lieu of taking Gateway's placement test, applicants may provide Gateway with American College Testing (ACT), Scholastic Aptitude Testing (SAT), or Accuplacer results.

As a general rule, placement scores older than five years will not be accepted. Applicants who have maintained their academic skills in reading, writing, and math through coursework, work experience, etc. may consult with a Student Services counselor for an exception to retesting.

Placement testing may be waived, in whole or in part, if the applicant has completed college coursework. Courses must have been completed within the last seven years, be in the specific testing area(s), and the applicant must have earned a grade of C or better (2.0 on a 4.0 scale) in the class(es). Applicants must submit official college transcripts to verify successful completion of their coursework in order to waive the placement test(s).

Testing may not be required for those individuals who wish to take a few college courses or supplement current knowledge. Placement testing will be required for courses with a placement score prerequisite.

When testing individuals with special needs, reasonable accommodation will be provided pursuant to state and federal regulations.

Note: Official transcripts are defined as transcripts sent directly to Gateway from the issuing school. Transcripts may be hand-delivered by the student if the transcripts remain unopened in the issuing school's sealed envelope. All official transcripts must have the issuing school's raised seal and/or appropriate official's signature to be accepted.

ADMISSION OF HIGH SCHOOL AGE STUDENTS

Compulsory Attendance for At Risk Students (118.15)

1. A child who is sixteen (16) years of age or over and is defined as At Risk may be excused by the school board from regular school attendance if the child and his or her parent or legal guardian agrees, in writing, that the child will participate in a program or curriculum modification leading to the child's high school graduation.

2. A child who is seventeen (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 legal guardian agrees, in writing, that the child will participate in a program leading to the child's High School Equivalency Diploma (HSED).

3. Upon the child's request, and with the written approval of parent or legal guardian, a child seventeen (17) years 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, detention facility, or a county jail, and the parent or guardian agrees that the child will continue to participate in the HSED program. The child must have passed one of the five content areas of the General Educational Development 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 not a fulfillment of their Home School attendance requirements.

Youth Options Program

Any public school pupil may enroll at Gateway for the purpose of taking one or more courses if they satisfy the following:

1. The pupil has completed 10th grade.
2. The pupil is not defined as At Risk.
3. The pupil is not attending Gateway under section Compulsory Attendance.
4. The pupil has the written approval of the pupil's parent or guardian.
5. The pupil has notified the school district of his or her intent to attend Gateway Technical College as outlined in 118.55(7r).

The pupil shall be admitted in the Gateway course(s) if he or she meets the requirements and/or prerequisites of the course, and if space is available only after admitting to the course all individuals applying for admission to the course. Youth Options students are eligible to enroll beginning the first day of open registration.

After Gateway admits the pupil, the secondary school board shall be notified in writing within thirty (30) days after the course(s) begins. If the pupil is approved for high school and Gateway program credit, Gateway shall charge the secondary school board the actual cost of resident tuition, course fees, and books. The payment for Youth Options students with a disability attending Gateway shall be adjusted to reflect the cost of any special services required for the pupil.

ADDING OR WITHDRAWING FROM A PROGRAM

It is the student's responsibility to notify the Admissions Office of any changes in program of student and/or student information. Failure to notify the College of student information changes could result in bypassing the student of important program information.

Students who wish to add, change, or withdraw from their programs must complete a Program Add/Withdrawal form and submit it to the Admissions Office. Forms are available at www.gtc.edu/forms.

Active Program Status

Students who are not enrolled for two consecutive academic years will be deactivated in their program(s). To be reinstated, student must reapply to the

program by completing a new application at www.gtc.edu/forms. Applicants who are reapplying may be required to submit new admission requirements to update their files in order to be reinstated. Their new date of acceptance 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.

READMISSION OF STUDENTS ACTIVATED FOR MILITARY SERVICE

Students who are forced to withdraw from their educational program to serve in the military due to a national crisis 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, second-tier 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, then Wisconsin nondistrict residency, followed by nonresidents, and the application completion date. 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 will be selected based on the later date, not the original date.

The time element prior to selection for and enrollment in core courses varies and is not predictable. See our website for further information about specific program petitioning at www.gtc.edu.

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, as well as other program information.

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, noncredit, English Language Learner, or Adult Basic Education. Determination of Wisconsin residency is based on where the student permanently resides and holds legal residency. 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 this state and the presumption continues in effect until rebutted by clear and convincing evidence of residence in the state through the Residency Determination process. Residency Determination Forms and a list of documents you can use for residency verification are available on the Gateway website at www.gtc.edu/forms.

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.

Individuals married to U.S. citizens, refugees, naturalized citizens, and legal permanent residents are considered U.S. residents. This does not, however, preclude them from having to provide verification of their Wisconsin residency as it pertains to other states. These individuals should verify their residency through the Residency Determination process.

REMISSION OF NONRESIDENT FEES FOR OUT-OF-STATE RESIDENTS INCLUDING AU PAIRS

WTCS Administrative Code allows for Gateway to remit the out-of-state fees for individuals who are considered out-of-state and have extenuating circumstances, 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 equivalent if enrolling in noncredit courses. Additional credits/ courses beyond those approved for remission are at the out-of-state rate. Remission of nonresident 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 Nonresident Fees application available online at www.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-20's 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-20's 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 are:

- 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 profit from instruction. Evidence of English proficiency may be TOEFL, ACT, or SAT scores.

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

1. Submit a completed WTCS application with application fee.

2. Complete International Student admission documents:
   - Declaration of Financial Resources
   - Certification of Finances
   - International Student Questionnaire/Emergency Contact form
   - Transfer Clearance form (if applicable)

3. TOEFL score of 500+ or written verification that the applicant is from an English-speaking country.

4. Submit official, translated high school and/or college transcripts, if applicable.

5. Make a deposit equal to one (1) year nonresident tuition established by the WTCS Board for the program in which he/she wishes to be enrolled. 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 Nonresident 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.

International students interested in applying for admission should contact an international student advisor for further information. Additional information and all forms are available at the Gateway website: www.gtc.edu

** Please note that due to enrollment restrictions, individuals seeking student visas cannot apply or be accepted to English Study, Health-related programs, Aeronautics-Pilot Training, or Barber/Cosmetology.

TRANSFER STUDENTS

Students who want to transfer credits from another college or university to Gateway Technical College must submit official transcripts to Student Services. Official transcripts are defined as transcripts sent directly to Gateway from the issuing school. Transcripts may be hand-delivered by the student if the transcripts remain unopened in the issuing school's sealed envelope. All official transcripts must have the issuing school's raised seal and/or appropriate official's signatures to be accepted. Courses completed at a regionally accredited institution are evaluated to determine for which transfer credit will be awarded. Coursework completed at an institution which is not regionally accredited is evaluated through the advanced standing process to determine what proficiency credit will be granted.

RECIPROCITY AGREEMENTS WITH THE COLLEGE OF LAKE COUNTY (CLC), McHENRY COMMUNITY COLLEGE (MHCC), AND ROCK VALLEY COMMUNITY COLLEGE (RVCC)

Through an agreement between Gateway Technical College and CLC, MHCC, and RVCC, 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 or technical diploma program covered 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, certificate, and transfer programs are not covered by this agreement.

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 form and submitting MN residency verification (same as for WI). These students are not considered residents for petition selection purposes.

ILLINOIS RESIDENTS EMPLOYED IN WISCONSIN

Illinois residents employed in Wisconsin, with the approval of their employer, may take courses at Gateway Technical College at the Wisconsin rate. Students interested in this program can obtain the Wisconsin Employer Authorization form at www.gtc.edu/forms.

REGISTRATION

Registration is the process of enrolling in courses. Dates, hours, and instructions for registration are published each semester in the Master Class Schedule and at www.gtc.edu. Academic advising will be provided by faculty and counselors.

- Students must be officially registered to attend a class.
- Students must be officially enrolled in order to receive credit for class(es).
- Students who are delinquent for the required payment on their payment plan will not be able to receive their grades or transcript or register for a class until the account balance is current.

REGISTRATION REQUIREMENTS

To register for classes, students must:
- submit a completed registration form to the Registration Office or register via WebAdvisor at My Gateway on Gateway's web site.
- not have an outstanding financial obligation to the College.
- have completed the application for admissions process, if required.

STUDENTS MAY NOT ATTEND A CLASS UNTIL THEY ARE OFFICIALLY REGISTERD FOR THE COURSE!
Students who do not register for a course are not eligible to receive credit for the course.

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. Students attending Gateway Technical College under the Youth Options program register during the open registration period regardless of whether or not they have been accepted into a postsecondary program.

CLASS CANCELLATIONS

Gateway reserves the right to cancel any scheduled class or to combine class sections as a result of insufficient enrollments. If this does occur, every effort will be made to notify the student prior to the start of the class. He or she is urged to work with a Student Services counselor in making alternative class selections. Refunds are issued for canceled classes.

AUDITING A COURSE

At times a student may wish to attend a class without receiving a grade or credits. To do so, the student must register to audit the course. The fees are the same, whether the student is auditing the course or taking it for credit. Information regarding the exception 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.

SENIOR CITIZEN AUDITS OF POSTSECONDARY COURSES

Wisconsin residents, 60 years of age or older on the start date of the class, may audit a technical diploma or associate degree course without paying the tuition portion of the class fee, provided space is available. This is a significantly reduced rate. Only nontuition fees, such as material, activity, and other miscellaneous fees will be charged. Forms for requesting a senior citizen audit are available at Student Services. 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 nontuition fees, such as material, activity, and other miscellaneous fees will be charged. 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 for Summer, Fall, or Spring semesters. A part-time student is defined as one who is enrolled in less than 12 credit hours for Summer, Fall, or Spring semesters. Enrollment verifications reflect the student's enrollment status at the time the verification is completed.

STUDENT FINANCE

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. Students are ultimately responsible for the payment of tuition, fees, and books. Payment options include cash, checks, MasterCard, Visa, and a comprehensive student payment plan as well as a class reservation deposit program. Payment or payment arrangements must be made by published deadlines. Out-of-state students pay additional tuition charges. (See Residency Qualifications for more information.)

FINANCIAL AID

Financial aid is financial assistance to help students of any age meet their educational costs. The Gateway Technical College Financial Aid Office uses the Free Application for Federal Student Aid (FAFSA) www.fafsa.gov to determine if a student is eligible for federal grants, student and parent loans, work-study, and state grants. The Financial Aid Office offers guidance in obtaining financial assistance to help you meet your educational expenses. Although the responsibility for financing your education lies with you, a wide range of financial aid may be available.

Aid is made available to you if you are eligible according to specific state and federal regulations. However, all eligible students must:

- Apply for admission to and be accepted to an aid-eligible program and meet program entry requirements before the start of the semester.
- Be a U.S. citizen, a National, 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 satisfactory academic progress as defined by Gateway's Financial Aid Office.
- Must participate in Loan Entrance/Exit Counseling if award includes a loan.

You must submit a Financial Aid application to be considered for any type of financial assistance. Worksheets are available at www.fafsa.gov or in Student Services on each campus to assist in completing the online application at www.fafsa.gov. **Gateway Technical College's school code is 005389**.

There are three major types of aid available to Gateway students. They include:
- Grants (do not have to be repaid unless you stop attending)
- Student Loans (must be repaid)
- Student Employment (you work and earn money to help pay for college)

Information about the specific types of grants, loans, and student employment available may be obtained from Student Services. Financial aid information may be subject to change at any time due to change in federal, state, or sponsoring agency regulations.

Financial aid and other services and benefits offered by the Wisconsin Technical College System Board and Gateway Technical College are provided on a nondiscriminatory basis as required by the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Governor's Executive Order #9, and Executive Order 11236 as amended by Governor's Order #9, as set forth in the College's Affirmative Action Plan.

FINANCIAL AID SATISFACTORY ACADEMIC PROGRESS POLICY

Financial aid programs require students to make satisfactory academic progress (SAP). The student's complete academic record at Gateway is used to determine if the student meets the progress standards. This includes semesters for which the student did and did not receive financial aid. The SAP policy consists of these components:

1. Qualitative standard requires a cumulative 2.0 grade point average (GPA) for all course work completed at Gateway.
2. Quantitative standard requires a 67% completion ratio of credits attempted (includes transferred credits). This standard is cumulative and is measured each semester.
3. Maximum credits attempted may not exceed 150% of the published length of the program. Grades of: F, W, R and I are considered attempted but not completed. Transfer credits accepted by Gateway will be counted in the number of credits attempted and completed. Failure to meet the standards at the end of each year will result in financial aid denial. Financial aid may be reinstated for future semesters if Qualitative and Quantitative standards are met or based on appeal.

FINANCIAL AID APPEALS

Students who are denied financial aid based on the criteria of the SAP policy may appeal for reinstatement of financial aid. Hardship situations that affected a student's progress must be explained addressing the term(s) of poor performance. Documentation of hardship may be requested. If applicable, the student must clearly explain why official withdrawal procedures were not followed. Examples of mitigating circumstances may include but are not limited to illness, severe injury, loss of childcare, or change of work schedule. If academic hardship exists, it is very important that students work closely with their instructors, counselors, and advisors.

The Financial Aid Committee reviews appeals. Based on the committee's review, the appeal may be approved, approved on probation, or denied. In limited cases, the committee's decision may be appealed to the Director of Financial Aid. When normal appeals procedures cannot be followed, SAP appeals may be reviewed by the Director of Financial Aid or designee.

Revisions or modifications to this policy may occur after the publication of this document. Changes will be posted at www.gtc.edu.

FINANCIAL AID DISBURSEMENT POLICY

If you receive federal and/or state funding, your funds will be applied to your student account. You will be able to charge certain expenses to this account. Expenses include tuition, fees, and bookstore charges. After classes begin and your attendance is verified, Gateway will apply your award to your account. If your award exceeds your expenses, a refund representing the proceeds of your funds will be applied to your Gateway Plus card. Financial aid awards are based on enrollment levels. Enrollment level changes will prompt a change in aid funds and a new award notification will be sent to you. Awards may be reviewed on WebAdvisor.

GATEWAY PLUS CARD

All eligible financial aid students will receive a Gateway Plus card. Financial aid disbursement is sent electronically to the Gateway Plus card and processed according to the choice indicated by the student. When the student activates the card successfully, the student may choose to have funds applied directly to the card of have funds electronically transferred to a bank account designated by the student. This card is good for five yearsand it is the responsibility of the student to retain this card. The card will be mailed to the address on file at Gateway Technical College. A $10.00 fee is to be paid when a replacement card is requested.

RETURN OF FEDERAL FINANCIAL AID FUNDS

If you withdraw or dropout of all Gateway Technical College classes prior to 60% of the semester's end date, you will be required to return some of the federal aid that was disbursed. The amount of aid you could keep is proportional with the amount of time you attended classes to the total days in the semester. Failure to attend any classes would mean a 100% return of all aid. Gateway will also repay to the federal aid funds a proportional part of your tuition that was originally paid with federal aid. These funds would then need to be repaid to Gateway Technical College. Any return of tuition will go to the following funds in priority order: (1) Federal Direct Loan (unsubsidized), (2) Federal Direct Loan (subsidized), (3) PLUS Loan, (4) PELL GRANT, (5) SEOG GRANT, (6) TIP GRANT. When aid is returned, the student will owe a balance to Gateway. Payments should be made at Student Services. Students who do not repay a debt as a result of this calculation may be reported to the Department of Education and may be prohibited from receiving Title IV funds at other colleges. In addition students who have a Title IV debt may not receive an official transcript. Students are reminded to follow the withdrawal procedures so that a correct calculation can be made.

SCHOLARSHIPS

Annually, the Gateway Technical College Foundation, Inc. awards scholarships and grants to students. These awards are

made possible through the generosity of individuals, 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. The Annual Foundation Scholarship Program awards various restricted funds that provide eligible students scholarship awards ranging from $300 to $500 or more. 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, use the following link: https://gtc.scholarships.ngwebsolutions.com. You can make online application for Gateway Foundation Scholarships 24/7.

VETERANS ADMINISTRATION (VA) EDUCATIONAL BENEFITS

Most of the educational programs offered by Gateway are approved for U.S. Department of Veterans Affairs (VA) educational benefits by the State of Wisconsin State Approving Agency. Students who wish to use their VA educational benefits must complete the required forms and obtain supporting documents and meet with the Veterans Counselor located in the Student Services Office on the campus of residence. Additional information on applying for veterans education benefits can be found at www.gtc.edu/va. In order to speed the payment of VA benefits, this procedure should be done prior to the start of each semester. Late application will result in late payment. Students receiving educational benefits are expected to comply with standards of academic progress and are responsible for meeting all payment deadlines. For a complete listing of approved programs and other related VA benefit information please contact the Veterans Counselor located on your campus. For specific eligibility requirements, you may also call the VA Educational Benefits line at 1-888-442-4551 or the Veterans Service Offices located in your county.

VA Standards of Progress

Students receiving VA educational benefits are required to maintain standards of progress. The standards of progress for Gateway students receiving VA educational benefits are as follows.

- A student who receives less than C average (2.0 on a 4.0 scale) in each of two successive semesters will be placed on a Veteran Benefit probationary status. This means that the school can certify one more semester of enrollment to the VA; however, the student must achieve at least a C average (2.0 on a 4.0 scale) for the semester.
- A student who receives less than a C average in the probationary semester will be considered in an unsatisfactory progress status. This means that the student will not be eligible for further educational benefits until satisfactory progress is reestablished.
- To reestablish satisfactory progress, the student must accumulate a minimum of six (6) credits (or equivalent in program's measured Clock Hours) with a C average. If the student achieves a C average, the school can resume certifying benefits to the VA beginning the next semester of enrollment. If, however, the student fails to achieve the C average, benefits will be curtailed until satisfactory progress, as defined previously, is achieved.
- The student must also be admitted to an approved program of study before being certified to receive educational benefits. The school may only certify courses that are required for that program.

WISCONSIN DEPARTMENT OF VETERANS AFFAIRS (WDVA) – EDUCATION BENEFITS

Wisconsin Veterans Education Reimbursement Grant Program (VetEd)

Eligible Wisconsin veterans attending college can receive up to 100 percent reimbursement of the cost of tuition and material fees after successful completion of full-time or part-time coursework. Individuals eligible for Wisconsin GI Bill benefits must apply for and use those benefits in order to be eligible for VetEd reimbursement.

Wisconsin GI Bill

The Wisconsin GI Bill provides a full waiver ("remission") of tuition and fees for eligible veterans and their dependents for up to eight (8) full-time semesters or 128 credits at any University of Wisconsin (UWS) or Wisconsin Technical College System (WTCS) institution. Please note that activity fees, miscellaneous fees, and book costs are not covered by the WI GI Bill. The tuition remission will not be applied until the school has received approval from the WDVA regarding a student's eligibility for the WI GI Bill. Students are responsible for meeting all payment deadlines. Additional information is available at www.wisvets.com/WisGIBill.

WDVA Retraining Grant

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 County Veterans Service Offices identified below. Please be mindful of the application deadlines for WDVA benefits.

The County Veterans Service Offices addresses are:

Kenosha County Veterans Service Office
8600 Sheridan Rd, Suite 700
Kenosha, WI 53143
Telephone: 262-605-6690

Racine County Veterans Service Office
1717 Taylor Avenue
Racine, WI 53403
Telephone: 262-638-6702

Walworth County Veterans Service Office
Walworth County Government Center
100 W. Walworth Street
Elkhorn, WI 53121
Telephone: 262-741-4222

Guard and Reserve Tuition Programs

1. Wisconsin Army and Air National Guard members attending Gateway can receive 100 percent reimbursement of tuition costs, excluding fees, up to a maximum set by the Wisconsin Department of Military Affairs. Complete eligibility and application forms are available from the student's Army or Air National Guard unit or at http://dma.wi.gov
2. Army, Air Force, and Marine Reserve Tuition Assistance Program. Check with your unit Educational Officer for details on these programs.

PAYMENT OPTIONS
As a student, you may use the following options to pay for your tuition/fee charges. A payment option must be in place by the date listed in the Master Class Schedule to prevent being dropped from ALL active classes for nonpayment.

Option 1 Payment in full for ALL classes may be made by cash/check/credit card at Student Services or by credit card at www.gtc.edu using the WebAdvisor link. Partial payments may be made on your account at Student Services until the payment option due date. Your account must be paid in full by the due date; any balance remaining after the payment option due date may result in your being dropped from all classes.

Option 2 Provide an authorization to Student Services from a third party (company/employer/agency) to cover tuition/fees or have financial aid deferment on file by due dates.

Option 3 Enroll in the Student Payment Plan at Student Services or online at www.gtc.edu. Available until date listed in the Master Class Schedule.

STUDENT PAYMENT PLAN
The Student Payment Plan is available for Fall 2010 from August 2 through September 17, 2010; for Spring 2011 from November 15, 2010 through February 4, 2011; and for Summer 2011 (dates to be determined). The $40 class reservation deposit does not enroll you in the Payment Plan. Enroll in the Payment Plan in Student Services or online at www.gtc.edu with a credit card payment.

1. Student must be enrolled in 3 or more credits. (Not available for noncredit students or to students only registered in Certified Nursing Assistant class.)

2. A deposit of 40% of eligible tuition/ fees plus a $15 nonrefundable processing fee is required at time of enrolling in the Payment Plan. Any partial payments made toward tuition for the semester prior to enrolling on the payment plan may be applied to the required 40% deposit. Partial payments do not enroll students in the Payment Plan; the student must officially enroll in the plan.

3. A maximum of $2,000 is allowed on payment plan after required deposit is made. Any charges over the maximum must be paid in full at time of enrollment in the plan.

4. Two (2) installment payments are due during semester for which payment plan is initiated. Due dates are printed in the Master Class Schedule, Student Handbook, 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.

5. A late fee of $45.00 will be assessed if first (1st) or second (2nd) installment is not received by due date.

6. If first (1st) or second (2nd) installment is not made by due date, student will not be able to register for classes or receive transcript or diploma until the account is current for the required payment including the last fee. There is no grace period beyond the due date for payment before a late fee is assessed.

7. The student will not be dropped from classes and will be responsible for payment of all fees.

CLASS RESERVATION DEPOSIT
The Class Reservation Deposit is available to credit students only. A $40 deposit will hold Fall 2010 credit classes until August 25, 2010; Spring 2011 credit classes until January 5, 2011; and Summer 2011 classes until May 3, 2011, at which time you are required to pay tuition and fees in full or make payment arrangements. The $40 deposit is nonrefundable if payment or payment arrangements are not on file by the above date(s). If a payment option has not been selected by the above date(s), you will be dropped from ALL your classes. The Class Reservation Deposit is not available after the above date(s).

DEBTS OWED TO GATEWAY
Students may owe debts to Gateway which are related to Registration, Financial Aid, Library/Learning Resource Center, due to bad checks, and for other miscellaneous reasons. A student's debts are retained on his/her record until cleared. Students are not allowed to register for classes or receive transcripts or diplomas until all debts are cleared. Students with debts may have their accounts sent to a collection agency and to the Wisconsin Department of Revenue Tex Refund Interception Program.

REFUND POLICY
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.

Refunds for Dropped Classes

REFUND SCHEDULE

Action	Timeline	Refer To	Effect
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	Before the first class meeting	**80% Refund**
Drop	11-20% of class meeting elapsed	Before the first class meeting	**60% Refund**
With-drawal	21-80% of class meeting elapsed	Contact Registration for withdrawal dates, instructions, and information	**No Refund**
Non-atten-dance	Definition: Student doesn't attend or discontinues attendance without completing and submitting drop or withdrawal paperwork.		**No Refund**

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 withdraw from classes after the refund period has ended; i.e., after 20% of the class meeting times have elapsed.

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. Sorry, 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 check will be issued.

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

Nonattendance
No refund is made to students who do not attend or discontinue attendance without completing and submitting drop and withdrawal paperwork.

Student Account Appeals - Students are responsible for payment of tuition and fees for classes for which they register. However, if a student encounters extenuating circumstances which have unexpectedly affected the student's enrollment in the class, the student may appeal to have tuition and fees reduced. Bookstore charges cannot be reduced, as those charges are incurred with Follett Bookstore, not with Gateway Technical College.

A student who wishes to submit an appeal should obtain a Student Account Appeal Form from Student Services. The completed form, with required supporting documentation, is returned to the Registrar's Office. The request must be submitted within 12 months of the end of the semester for which charges are being appealed. The Student Account Appeals Committee reviews the request and notifies the student of its decision in writing. Each appeal will be reviewed only once, and the decision of the committee is final.

STUDENT RECORDS / ACADEMIC INFORMATION

STUDENT NAME
The name on a student's record is the official name which will be displayed on college documents, transcripts, and the diploma. Name changes will only be completed upon presentation of a legal document supporting the change.

SOCIAL SECURITY NUMBER POLICY
All Gateway Technical College students 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) and is not considered directory information. It will not be released to a third party or used for identification purposes. The Internal Revenue Service allows some postsecondary students to claim an 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, either electronically or by mail. This will document the student's SSN on file and the postsecondary enrollment information. For tax credit eligibility information, please consult your tax professional. The Internal Revenue Service requires that Gateway provide 1098T forms annually to postsecondary students.

STUDENT ID NUMBER
Every student will have a system-generated ID number that will appear on his or her schedule and most Gateway Technical College correspondence. This number is not considered directory information and will not be released to a third party.

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 changes 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 enrollment. 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 meet graduation requirements.

1. The College can, after two (2) years of noncontinuous 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.

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

Credits
Each course carries academic credit based on total contact hours and the method of instruction. Credits are used in determining student grade point average. "General College" amd developmental/remedial courses do not carry credit toward postsecondary degrees or diplomas.

Grades
Students enrolled in associate degree, technical diploma, academic prep, or adult high school credit courses will be graded by the following letter grade and point system. These represent various levels of accomplishment and grade points earned. Some instructors may not use plus (+) or minus (-) grades. See chart on next page.

Grades	Description	Grade Points
A	Excellent	4.00
A-	Excellent	3.67
B+	Good	3.33
B	Good	3.00
B-	Good	2.67
C+	Satisfactory	2.33
C	Satisfactory	2.00
C-	Satisfactory	1.67
D+	Poor	1.33
D	Poor	1.00
D-	Poor	0.67
F	Failure	0.00

The following grades may appear on your transcript, but will not be included in the Grade Point Average:

WP - Withdrawal Passing (prior to 2007)
WF - Withdrawal Failing (prior to 2007)
W - Withdrawal
R - Repeated
I - Incomplete
AU - Audited (no credit earned)
TR - Transfer Credit
PR - Proficiency Credit (Advanced Standing)
M - Manual Repeat Adjustment

Grade Point Average (GPA)
A student's average grade is expressed in terms of a grade point average. The grading scale at Gateway Technical College is based on a four-point scale. The grade point average is calculated by dividing the sum of the grade points by the total number of GPA credits. "General College," precollege, and pretechnical classes are developmental and/or remedial classes and do not count toward postsecondary graduation, nor are they used in GPA calculations.

To determine grade point average:
- Multiply the number of GPA credits for each course by the grade point value of the letter grades assigned. This converts the letter grades into grade points.
- Add the total number of GPA credits.
- Add the total number of grade points earned.
- Divide the total number of grade points by the total number of GPA credits.

The resulting figure is the student's grade point average.

I GRADE
The I (Incomplete) grade may be assigned, at the discretion of the instructor, if a student encountered extenuating circumstances which prevented completion of the course. The student must have been close to completing the course, but due to those circumstances, was unable to complete the final exam or some limited amount of coursework. The instructor sets a deadline by which the coursework must be completed. The deadline will be no later than the end of the following semester, not including Summer semester. The I grade will be displayed on the student's transcript, which may be viewed online. An I grade which is not changed by the deadline set by the instructor will automatically be changed to an F.

GRADE CHANGES
Grade changes must be made within one year of the end of the semester in which the student registered for the courses. Grade changes will be honored only to correct a mistake or error in calculating or assigning the course grade.

STUDENT PROGRAM RECORD SEALED AT GRADUATION
Once a student graduates from a program, that record is sealed. No changes are made to grades used to meet program requirements. If a course used to fulfill a graduation requirement is repeated after a student graduates, the repeat does not affect the record; it will not be used for credit or GPA purposes.

REPEATED COURSES
When a student repeats a course at Gateway Technical College, only the highest grade will be used to calculate the student's grade point average. The course credits will be counted only once. All grades shall remain on the student's transcript; however, the lower grade(s) will have a notation of R, indicating that the course has been repeated.

ADULT CONTINUING EDUCATION GRADING INFORMATION
Students enrolled in Adult Continuing Education (ACE) courses will be assigned the following grades:

Grades	Grades	Grade Points
S	Satisfactory	No grade points are assigned for Adult Continuing Education Courses
U	Unsatisfactory	

MID-TERM GRADES
Mid-term grades will be available via WebAdvisor on the dates specified in the calendar. Mid-term grades are a snapshot of your grade on the date the mid-term grade was entered. Mid-term grades do not appear on your transcript and are not calculated into your GPA. Refer to your syllabus for the course grading policy and assignments. Instructor comments may also be provided. Mid-term grades are only required for courses that are at least 15 weeks.

GRADES
Students may view their grades via WebAdvisor by selecting the Unofficial Transcript option. Grades are available online the day after the instructor enters them. Students who have an outstanding balance on their accounts will not be able to view their grades or transcripts.

ACADEMIC PROGRESS
The Gateway Technical College District Board recognizes that there are limited resources available to meet educational needs. Therefore, out of necessity, students who fail to attain adequate academic progress in an academic area or program may be dropped from said program. Academic Progress Standards will be developed on a program and area basis, and all students entering a program or area will be advised in writing as to the standards that apply in the program or area in which they are enrolled.

CURRICULUM SHEETS
Curriculum sheets detail current course requirements and course descriptions in your program. Useful information concerning possible job opportunities at entry and advanced levels is listed on the back of the sheet. You can obtain curriculum sheets from your advisor or Students Services and on Gateway's

website www.gtc.edu. If a curriculum change occurs in your program, you have the option of following the requirements listed for the academic year you started your program. Students who interrupt enrollment for a period of two years or take more than seven (7) years to complete a program may be required to follow the latest requirements (see a Student Services counselor for details). Information on the curriculum sheet is subject to change.

PREREQUISITES AND COREQUISITES

A prerequisite is a required course which must be successfully completed before you can register for an advanced course. Most courses require a minimum D - grade to be earned in the prerequisite. However, some courses require a minimum grade of C (2.00). Please see your curriculum sheet for prerequisite requirements.

A corequisite is a class which must be completed prior to or at the same time as the selected course. You should be familiar with the prerequisite and corequisite requirements of your program courses. Prerequisites and corequisites are identified on your curriculum sheet. Not following these requirements can result in the need for extra semesters of work to complete graduation requirements. If you feel that you have work experience or training which may qualify for enrollment in an advanced course, discuss the situation with a counselor in Student Services.

ELECTIVES

Elective credits may enable you to take courses in addition to those specified in your program's curriculum. You can choose elective courses 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. You should check with your faculty advisor or a Student Services counselor on the selection of elective credits.

ATTENDANCE

Gateway Technical College 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.

TRANSFER CREDIT

Transfer Credits from Another Institution

A student must be accepted to a postsecondary program at Gateway Technical College before transfer credits will be awarded. Gateway Technical College must have official transcripts on file before transfer credits are awarded. A minimum grade of C is required for courses to be accepted in transfer. Courses with a grade of C- or below will not be accepted. A counselor will evaluate the transcripts. The Student Services counselors work with course instructors, academic deans, and the Advanced Standing counselor to determine course transfer credit.

College Level Examination

Credit will be granted for passing College Level Examination Program (CLEP) exams, either the General Exams or the Subject Exams.

Military Evaluation

Credit is granted upon review of an "Official Military Transcript." Transcript should be submitted to the Advanced Standing counselor. Evaluation is accomplished by using the American Council on Education (ACE) Guidelines and referral to specific departments when deemed necessary.

Tech Prep and Articulation for High School Students

Through an agreement with area high schools, Gateway awards credits for certain approved courses taken at the high school level. Students must enroll in Gateway Technical College 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 program advisor. High school students should speak with their guidance counselors regarding these opportunities.

ADVANCED STANDING

General Information

Advanced Standing is a program which recognizes prior learning through the awarding of academic credit. Students with prior learning experience may be able to pass Advanced Standing tests and earn credits toward their diploma or degree from Gateway. Advanced Standing fees are charged and are not covered by Financial Aid. No student is allowed to Advance Stand out of a course which they are failing or for which they have received a letter grade on their official transcript (A through F grades, as well as Incomplete or Withdrawal grades).

The Advanced Standing option program should be considered by students who have:

- extensive high school coursework which is not covered under a Tech Prep 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.

Advanced Standing may be available through the following processes.

Credit through Examination

Credit is granted upon the satisfactory completion of formal written or performance tests for certain courses. The Advanced Standing Counselor facilitates this process.

Evaluation of Experience

Proficiency credit may be granted for studies or training which lacks accreditation. Students must meet with

the Advanced Standing counselor to determine possible areas to be evaluated. Students can either register for the Life/Work Evaluation course or prepare a written portfolio independently to be evaluated by appropriate instructors.

ADULT HIGH SCHOOL DIPLOMA

Gateway's Adult High School program is designed for people eighteen years and older who want to obtain their high school diploma. Public school districts in Kenosha, Racine, and Walworth counties cooperate in this program. It is possible to earn credit through proficiency testing and by evaluation of prior life/work experiences. Students enrolled in associate degree or technical diploma classes may also receive high school credit for them. The Adult High School counselor in Student Services can give you more information on obtaining a high school diploma through Gateway. Please note: Students dually enrolled in Adult High School and postsecondary courses are not eligible for financial aid.

GENERAL EDUCATIONAL DEVELOPMENT (GED®)

Students can earn their GED by passing the official GED Testing Service tests. Subjects include Writing, Reading, Social Studies, Science, and Mathematics. Prior to testing, students must complete an orientation through the Adult Learning Center. GED instructors can pretest in all five 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. Nonresident 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, Career Awareness, and Employability Skills. An HSED may also be obtained through the completion of high school credits, postsecondary credits, or competencies. Students may also be eligible to receive an HSED if they have been granted a diploma from a foreign country. Nonresident fees may 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, self-guided exercises and assignments, and one-on-one tutoring are utilized. Nonresident fees may apply.

AWARDING OF DEGREES, DIPLOMAS, AND CERTIFICATES

Degrees, Diplomas, and Advanced Technical Certificates

The Gateway Technical College District Board has the authority to grant associate degrees, technical diplomas, and advanced technical certificates to graduates of occupational programs approved by the Wisconsin Technical College System Board.

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.

DEAN'S LIST

Dean's List honors are granted each semester for students who are accepted into an associate degree or technical diploma program, have enrolled for a minimum of six (6) credits, and achieved a semester grade point average of 3.75 or better (see section on Grade Point Average). After final grade verification, certificates will be mailed to each eligible student.

GRADUATION REQUIREMENTS

The Gateway Technical College District has procedures that govern the graduation requirements for Technical Diploma and Associate Degree Programs and Advanced Technical Certificates. In order to graduate, a student must fulfill the following requirements.

- All the course requirements on the official curriculum sheet must be completed successfully. Any course substitutions must be approved and documented in the student's record.
- Twenty-five percent (25%) of the program credits must be earned at Gateway Technical College. Courses which were completed by the Advanced Standing process are not counted as credits earned at Gateway Technical College.
- Twenty-five percent (25%) of the major course credits designated with an asterisk (*) on the curriculum sheet must be earned at Gateway Technical College. Courses which were completed by the Advanced Standing process are not counted as credits earned at Gateway Technical College.
- The following grade point average (GPA) requirements must be met.
  - A Program GPA of 2.000 is required in order to graduate (2.000 on a four-point grading scale is a C).
  - A Major GPA of 2.000 is required. Some programs require a minimum grade of C (2.000) in some courses; see your curriculum sheet. Individual programs may have additional requirements to meet accrediting agency requirements. Refer to the program curriculum sheet for additional graduation and grade point requirements.
- All student financial obligations must be met before certificates, diplomas, degrees, advanced technical certificates, and transcripts are released.
- It is the student's responsibility to check his/her transcripts prior to the last semester of study to ensure that all the requirements for graduation will be met. All requirements must be completed by the last day of the semester, including removal of incomplete grades and submission of transcripts with transfer credits.

COMPUTATION OF GRADE POINT AVERAGE (GPA)

Cumulative GPA
- All associate degree and technical diploma level courses that a student has taken at Gateway are used to calculate this GPA.
- "General College," precollege, and pretechnical are developmental and/or remedial classes and do not count toward graduation, nor are they used in GPA calculations.
- This GPA appears on the transcript and program degree audit.

Program GPA
- All courses on the program curriculum sheet are used to calculate this GPA.
- This GPA is used to determine graduation honors.
- This GPA may also be used to determine other department or campus awards.

Major GPA
- All courses that are designated with an asterisk (*) on the program curriculum sheet are used to calculate this GPA.
- This GPA is used to determine if the minimum GPA requirement has been met for these selected courses.
- This GPA may also be used to deter mine other department or campus awards.

APPLICATION FOR GRADUATION

Gateway has three (3) graduation dates each year. The graduation dates are the last day of classes of the Fall, Spring, and Summer semesters. Students graduate on the next available graduation date after they have applied for graduation and have met all program requirements. Students who plan to receive a degree or diploma must submit an Application for Graduation date form to Student Services by the filing deadline. The filing deadlines are: Spring graduation – March 31; Summer graduation – July 31; and Fall graduation – November 30. Students who apply for graduation after the deadline will be assigned to the next graduation date. Students who have applied to graduate but fail to meet the requirements must submit a new application to graduate indicating in which semester they intend to graduate.

GRADUATION WITH HONORS

Students who complete an Associate Degree or Technical Diploma with a program grade point average (GPA) of 3.750 or above are recognized as honors graduates.

Honors distinction is bestowed upon students attaining the following grade point averages:
- District Honors: 3.750 - 3.899
- President's Honors: 3.900 - 4.000

Honors for purposes of the graduation ceremony are determined by the student's program grade point average using grades posted to the transcript on or before April

A graduate's final program GPA is used to determine official honors status which will be recorded on their transcript. The appropriate honor seal is attached to the diploma/degree after final graduation verification. The program grade point average listed on the program degree audit is the official grade point average used to determine honors. Grade point averages are not rounded.

GRADUATION CEREMONY

The graduation ceremony, held during the last week of the Spring semester, is a special recognition of students' scholastic achievements at Gateway Technical College. It is a formal cap and gown ceremony, and all graduates are encouraged to participate and be recognized. A student's name will appear in the official program and potential honors designation will be acknowledged at the ceremony only if an Application for Graduation form is on file with Student Services by March 31. All potential graduates and confirmed graduates from the previous Fall graduation are notified in mid-April of graduation ceremony details. Students who, as of April 1, have six (6) credit hours or less to complete may participate in the ceremony in May of the same year. The student must complete these credits during the Summer semester.

TRANSCRIPTS

Transcripts of student postsecondary, Adult High School, General Educational Development (GED), High School Equivalence Diploma (HSED), and Adult Continuing Education (ACE) may be secured by completing a Transcript Request Form or a written, signed request with fee to Student Services. Written consent of the student must be obtained before transcripts may be released. Gateway does not release transcripts received from other institutions. There is a fee for each transcript. The Transcript Request Form is available on the Gateway website at www.gtc.edu.

STUDENT RIGHTS & 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. Gateway Technical College believes that all students have responsibilities in the areas of governance, services, and conduct. Complete information can be found in the Student Handbook and on Gateway's website at www.gtc.edu.

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. 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 a written request that identifies the record(s) the student wishes to inspect. The Registrar 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 education interest if the official needs to review an education 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 of the ACT. This includes certain federal and state officials of the District accrediting agencies, etc.
6. Requests are for directory information, which includes the following categories:
   - Name
   - Hometown
   - Date of birth
   - Program of enrollment (major field of study) and number of credits in which student is 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/honors received (type of degree and date granted)
   - 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 exemptions 1. through 5., is confirmation that a student is or has been enrolled at Gateway. If the 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. All other inquiries will be limited to confirmation that a student is or was previously enrolled at Gateway.

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 the student. Likewise, 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. If a student elects to have directory information held confidential, they should complete a form which is available at any Student Services office.

ENROLLMENT POLICY

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

- paid the required tuition and fees.
- entered into a standardized payment plan agreement with the District.
- a financial aid deferment or have a third-party payer authorization/ contract on file with Gateway guaranteeing payment of tuition and fees.

Any student who has an outstanding debt with the College will not be allowed to register for

any additional classes until the debt has been satisfied and/or discharged. Students who believe they should not be held responsible for charges to their account due to extenuating circumstances must follow the Student Account Appeals Procedures.

This policy will be effective in reference to debts incurred after January 1, 1992.

STUDENT RELIGIOUS ACCOMMODATIONS

Policy

In compliance with Wisconsin Administrative Code, 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.

Procedure

Student appeal of the religious accommodation decisions will be processed through the due process procedure.

Step 1: The student must first address a concern to the appropriate staff member. The student may consult with a Student Services counselor who will assist the student in understanding the process and direct the student to the appropriate person.

Step 2: If, after discussing the concern with the appropriate staff member, the concern has not been resolved, the student should prepare a written document which identifies the specific concerns and desired outcomes. This document should be presented to the person with whom the student discussed the concern. A written response must be given to the student within seven (7) working days.

Step 3: If the concern remains unresolved, the student will be directed to send a copy of the written document and response to the program dean. (If for some reason the program dean has a conflict of interest, another program dean should be appointed by the dean of campus affairs to review the matter.) The program dean will meet with the student and the staff member and respond, in writing, within seven (7) working days.

Step 4: The program dean's decision is final, unless the student is able to present facts which show new evidence or a cause for error in the program dean's decision. These facts must be presented, in writing, to the appropriate dean of campus affairs within fourteen (14) working days of the program dean's decision. If the new facts are determined to be appropriate, an appeals committee will be assigned to hear the concern within seven (7) working days of the request.

The appeals committee selection is as follows:

- Dean of campus affairs selects the following four (4) people: one (1) chairperson who will be a staff administrator, and three (3) staff members.
- The campus Student Government Association will select two (2) students from programs other than that of the individual filing the grievance.
- The individual filing the grievance will select one (1) peer from his/her program area.

The committee will make a recommendation to the dean of campus affairs who will make a decision within five (5) working days of the committee hearing.

DRUG-FREE ENVIRONMENT

Any student who engages in an activity, on District premises or at a District-sponsored event, that constitutes a violation of State of Wisconsin Uniform Controlled Substances Act shall be subject to nonacademic 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 and alcohol 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

Gateway Technical College supports the concept of wellness, the U.S. Surgeon General's mandate for a smoke-free America, and the spirit of Wisconsin's Clean Indoor Air Act. Gateway has taken positive steps to provide a healthier environment for students, employees, and visitors.

Smoking and tobacco use is prohibited in all buildings and on grounds, sidewalks, streets, parking lots, and structures owned or leased by Gateway Technical College. Persons who violate this policy will be fined $10 for each violation.

CAMPUS SAFETY

At Gateway Technical College, safety is our number one priority and it is our goal to provide the safest environment possible for both employees and students.

Emergency Notification System

Gateway Technical College's "Alert Me" emergency nofitication system will alert subscribers with a text message or an e-mail in the event of a dangerous situation occurring at one of the Gateway locations, including a confirmed tornado area. Students are strongly encouraged to sign up for this service at www.gtc.edu/alertme as soon as possible in order to be alerted if such an event were to occur. If you had already registered last academic year for this service, you will need to enroll again for this year. This service is available to all students, staff, and family members. Note: If your cell phone provider charges to text messages received, there will likely be a cost associated with this service – check with your mobile phone provider.

Emergency Website

In case of an emergency that would impair the College's ability to use its own website for communication with the public, please go the emergency website http://emergency.gtc.edu for important information.

January

February

March

April

May

June

July

August

September

October

November

December

GATEWAY TECHNICAL COLLEGE 2010-2011 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. Please contact any campus Registration Office for exact fee amounts. Fees are subject to change at any time.

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 2010-2011 academic year. Information was accurate as of July 1, 2010. Gateway reserves the right to modify course content.

Current information is available by contacting any Student Services office.

Burlington Center
496 McCanna Pkwy
Burlington WI 53105-3622
262-767-5200

Elkhorn Campus
400 County Road H
Elkhorn WI 53121-2046
262-741-8300

Kenosha Campus
3520 – 30th Avenue
Kenosha WI 53144-1690
262-564-2300

Racine Campus
1001 S. Main Street
Racine WI 53403-1582
262-619-6300

	Fall 2010 (September 8 through December 21)
September 6	Labor Day Holiday - College Closed
September 7	In-service – No Classes
September 8	First Day of Fall Semester
October 20	Employee Learning Day – No Classes
November 25 - 26	Thanksgiving Break - College Closed
December 21	Last Day of Fall Semester
December 22	In-service – No Classes
December 24 - 31	Winter Break - College Closed
	Spring 2011 (January 19 through May 10)
January 1	New Year's Day – College Closed
January 18	In-service – No Classes
January 19	First Day of Spring Semester
March 1	In-service – No Classes
March 14 - 19	Spring Break – No Classes
April 22 - 25	Spring Break – College Closed
May 10	Last Day of Spring Semester
May 11	In-service – No Classes
May 17	Graduation
	Summer 2011 (May 17 through August 29)
May 16	In-service – No Classes
May 17	First Day of Summer Semester
May 28 - 30	Memorial Day Holiday – College Closed
July 4	Independence Day Holiday – College Closed
July 8	In-service – No Classes
August 29	Last Day of Summer Semester
August 30	In-service – No Classes

ASSOCIATE OF APPLIED SCIENCE DEGREE

Accounting 28
Administrative Professional 30
Aeronautics—Pilot Training 32
Air Conditioning, Heating, & Refrigeration Technology 34
Architectural—Structural Engineering Technician 36
Automated Manufacturing Systems Technician 38
Automotive Technology 40
Broadcast Captioning 42
Business Management 44
Civil Engineering Technology – Highway Technology 46
Civil Engineering Technology – Fresh Water Resources 48
Criminal Justice—Law Enforcement 50
Culinary Arts 52
Diesel Equipment Technology 54
Early Childhood Education 56
Electrical Engineering Technology 58
Electrical Engineering Technology – Biomedical 60
Electrical Engineering Technology – Sustainable Energy Systems 62
Electromechanical Technology 64
Electronics 66
Fire Protection Technician 68
Graphic Communications 70
Health Information Technology 72
Horticulture – Greenhouse and Floral 74
Horticulture – Nursery and Landscaping 76
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Human Services Associate 80
Individualized Technical Studies 82
Industrial Mechanical Technician 84
Information Technology—Computer Support Specialist 86
Information Technology—Network Specialist 88
Information Technology—Programmer/Analyst 90
Information Technology—Web Developer/Administrator 92
Instructional Assistant 94
Interior Design 96
Judicial Reporting 98
Land Survey Technician 100
Marketing—General 102
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Mechanical Design Technology—Mechatronics 108
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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 Master Class Schedule 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 2010-11 academic year.

Course descriptions are merely general summaries of various courses which may be offered at Gateway Technical College during the 2010-11 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 July 1, 2010. 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.

Please check with a Gateway counselor for admissions and enrollment information.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Finance	**Career Pathway ►** Accounting	**ACCOUNTING** **(10-101-1)** *Associate of Applied Science Degree* **Offered at: Kenosha, Racine, Elkhorn & Online**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		101-100	*	Accounting Program Orientation		1	1-0
		101-114	*	Accounting Principles		4	3-2
		101-143	*	Payroll Accounting		2	1-2
		103-199		PC Basics / Microsoft Office		3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 2)	3	3-0
		804-123		Math with Business Applications	Prereq: 834-109 (See Note 2)	3	3-0
Semester 2		101-104	*	Income Tax Accounting		4	3-2
		101-121	*	Intermediate Accounting I	Prereq:101-114 Coreq:101-100; 804-123; 103-199 OR 103-102	4	3-2
		101-106	*	Accounting Spreadsheet Apps.	Prereq: 101-112 or 101-114; 103-199 OR 103-102	3	2-2
		801-196 801-198	*OR*	Oral/Interpersonal Communication Speech		3	3-0
		809-172 809-196	*OR*	Race, Ethnic, and Diversity Studies Sociology, Introduction to	 Prereq: 838-105 (See Note 2)	3	3-0
Semester 3		101-122	*	Intermediate Accounting II	Prereq: 101-121	4	3-2
		101-131	*	Management Accounting	Prereq: 101-121 Coreq: 101-106	4	3-2
		101-154	*	Accounting Software Applications	Prereq: 101-112 or 101-114	2	1-2
		809-195		Economics	Prereq: 838-105 (See Note 2)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
Semester 4		101-105 101-103	*OR*	Accounting Portfolio Development Internship for Accounting	Coreq: 101-104; 106; 131; 143; 154; 155 Prereq: Instructor Consent	2	1-2 1-0-0-4
		101-155	*	Financial Analysis/Management	Prereq: 101-106 Coreq: 101-122	3	2-2
		101-158	*	Accounting Capstone	(See Note 1)	4	3-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 101-152 Accounting Govt / Nonprofit (3 Cr) 102-122 Investments (3 Cr)			114-101 Personal Financial Planning (3 Cr)		
					Program Total Required	***67***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Accounting covers the principles of accounting, including budgeting, auditing, 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 of the Accounting Associate Degree Program should be able to:

1. Compile, setup and compute basic financial ratios from annual report information and use the data to individually analyze the financial position of a public company.
2. Demonstrate the use of a commercial software package.
3. Prepare basic payroll journal entries, related reports, and filings.
4. Use commonly accepted cost accounting methods.
5. Demonstrate comprehensive knowledge of the accounting cycle and application of Generally Accepted Accounting Principles.
6. Prepare basic individual income tax returns.
7. Demonstrate applied employability skills in the accounting field.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 67 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.

NOTES

1. 101-158 has prerequisites of 101-104, 101-122,101-131, & 101-143 and a corequisite of 101-155.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Business Management & Administration	**Career Pathway ►** Administrative Services	**ADMINISTRATIVE PROFESSIONAL** **(10-106-6)** *Associate of Applied Science Degree* **Offered at: Kenosha, Racine & Elkhorn Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		106-112	*	Records Management		2	2-0
		106-137	*	Keyboarding Applications		3	1-4
		106-178	*	Office Proofreading & Editing		2	2-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		801-196		Oral / Interpersonal Communication		3	3-0
		804-123		Math with Business Applications	Prereq: 834-109 (See Note 1)	3	3-0
Semester 2		101-112		Accounting for Business		3	3-0
		106-002	*	Publication Design for the Office	Prereq: 106-137	3	2-2
		106-003	*	Word Processing for the Office	Prereq: 106-137	4	2-4
		106-119	*	Professional Development		2	2-0
		106-138	*	Automated Office Applications I	Prereq: 106-137	3	2-2
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		106-142	*	Automated Office Applications II	Prereq: 106-138	3	2-2
		106-187	*	Office Technology Communications	Prereq: 106-137; 106-178; 801-136	3	2-2
		106-190	*	Administrative Office Procedures	Prereq: 106-138	3	2-2
		106-199	*	Web Pages for the Office		2	1-2
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		106-004	*	Advanced Office Technologies		3	2-2
		106-152	*	Automated Office Applications III	Prereq: 106-142; 106-190	3	2-2
		106-192	*	Administrative Assistant Internship	Prereq: Instructor Consent	3	2-0-0-4
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		809-195		Economics	Prereq. 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 196-193 Human Resource Management (3 Cr)					
		101-106 Accounting Spreadsheet Apps (3 Cr)			101-154 Accounting Software Applications (2 Cr)		
		101-143 Payroll Accounting (2 Cr)			196-164 Personal Skills for Supervisors (3 Cr)		
		106-127 Skill Building I (1 Cr)			196-191 Supervision (3 Cr)		
		501-101 Medical Terminology (3 Cr)			196-193 Human Resource Management (3 Cr)		
					Program Total Required	***69***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Administrative Professional Associate Degree Program should be able to:

1. Employ computer skills to administrative tasks using a variety of business-related software (including word processing, database, spreadsheet, e-mail, presentation, desktop publishing, and the Internet).
2. Perform detailed work with a high degree of accuracy.
3. Demonstrate clear and concise written and oral communication, while displaying proficiency in spelling, punctuation and grammar.
4. Apply organizational skills in managing the workflow by prioritizing multiple projects and assignments in a diverse and ever-changing environment.
5. Use manual and electronic filing methods as well as information management procedures.
6. Display professionalism and work ethic essentials.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 69 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with departmental approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	AERONAUTICS – PILOT TRAINING (10-402-1)
GATEWAY TECHNICAL COLLEGE	Transportation, Distribution & Logistics	Transportation Operations	*Associate of Applied Science Degree* Offered at: Kenosha Campus Aviation Center

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		402-129	*	Aviation / Introduction		3	0-6
		402-140	*	Flight Private Pilot	Coreq: 402-129	3	0-6
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
Semester 2		402-136	*	Aero Science – Aviation Weather		3	3-0
		402-137	*	Aero Science – Instrument		3	0-6
		402-139	*	Aero Science – Engine/ Structure/ System	Prereq: 402-140	3	3-0
		402-171	*	Professional Piloting I	Prereq: 402-140 Coreq: 402-137	2	0-4
		801-198		Speech		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		402-133	*	Aero Science – Commercial		3	0-6
		402-135	*	Aero Science – Aerophysics/Aerodynamics		3	3-0
		402-173	*	Professional Piloting II	Prereq: 402-171	2	0-4
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		402-120		Aero Decision Making	Prereq: 402-177	2	0-4
		402-122		Aircraft Systems – Advanced	Prereq: 402-139	3	3-0
		402-138	*	Aero Science – Aviation Safety		3	3-0
		402-175	*	Professional Piloting III	Prereq: 402-173 Coreq: 402-133	2	0-4
		402-177	*	Professional Piloting IV	Prereq: 402-175	2	0-4
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 402-131 Aero Science-Fundamentals/Instruction (2 Cr) 402-166 Aeronautics Skill Development (1 Cr) 402-145 Flight-Certified Flight Instructor (2 Cr) 402-146 Flight Certified Instructor Instrument (1 Cr) 402-150 Internship-Flight (3 Cr) 402-134 Aero Science Certified Flight Insurance Airplane (2 Cr)					
					Program Total Required	***64***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 licensing is dependent upon successful completion by the individual student.

PROGRAM LEARNING OUTCOMES

Graduates of the Aeronautics-Pilot Training Associate Degree Program should be able to:

1. Give flight instruction to a primary student.
2. Teach a ground school subject.
3. Develop a full lesson plan for flight or ground instruction.
4. Assess an advanced student's instrument approach in a written report.
5. Develop a full ground school course syllabus and lesson plans for the course.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra, and algebra placement testing.

GRADUATION REQUIREMENTS

1. 64 Credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
3. This program is registered as an FAA Airway Science program. Students wishing to graduate from the FAA Airway Science program are also required to take 806-143, General Physics 1.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Students must maintain a 2.0 GPA in Aviation Core courses (402 courses) to continue with flight training.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	AIR CONDITIONING, HEATING & REFRIGERATION TECHNOLOGY (10-601-1) Associate of Applied Science Degree Offered at: Kenosha Campus
	Architecture & Construction	Construction	

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		103-199		PC Basics / Microsoft Office		3	2-2
		601-110	*	Air Condition Fundamentals		3	3-0
		601-111	*	Workplace Fundamentals		1	0-2
		601-116	*	Mechanical Fundamentals		3	1-4
		605-107		Fundamentals of Electricity/Electronics		3	1-4
		804-107		College Mathematics	Prereq: 834-109 (See Note 1 & 4)	3	3-0
Semester 2		601-121	*	Heating Systems	Prereq: 601-110	3	2-2
		601-128	*	Electrical Controls & Systems	Prereq: 605-107	3	1-4
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		801-196		Oral / Interpersonal Communication		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		601-129	*	HVAC Systems	Prereq: 601-110; 601-116	3	1-4
		601-131	§*	Heating Systems Applications	Prereq: 601-121	3	1-4
		601-133	*	Refrigeration Fundamentals		3	2-2
		601-147	*	Control Circuit Applications	Prereq: 601-128	3	1-4
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Semester 4		601-130	*	HVAC Blueprint Reading		2	1-2
		601-143	§*	Refrigeration Applications	Prereq: 601-110; 601-116; 601-133	3	1-4
		601-145	*	Electronic Energy Management	Prereq: 601-147	3	1-4
		601-148	*	HVAC Electrical Troubleshooting/Repair	Prereq: 601-107	3	1-4
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 442-101 Welding Basics (1 Cr); 601-114 Power Plant Op Engineer (4 Cr); 806-128 Descriptive Physics (3 Cr)					
					Program Total Required	***69***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Air Conditioning, Heating, & Refrigeration Technology develops the skills and knowledge necessary for state and federal certification. Theory and practical hands-on experience in the troubleshooting, repair, and installation of residential and commercial HVAC/R systems are emphasized. Students will practice on modern and advanced equipment, incorporating microprocessor controls, and building automation technology. Topics covered during lecture and lab hours include complete heating, air conditioning and refrigeration systems, how components interact, and total system performance. Refrigerant handling certification is encouraged and is dependent upon successful completion by the individual student.

PROGRAM LEARNING OUTCOMES

Graduates of the HVAC Associate Degree Program should be able to:

1. Troubleshoot and repair residential heating equipment.
2. Troubleshoot residential air conditioning equipment.
3. Troubleshoot commercial refrigeration equipment.
4. Gather and tabulate data to calculate heating and cooling loads on residential dwellings.
5. Install a residential furnace and air conditioner.
6. Interpret residential/commercial building prints for code requirement, piping layout, and equipment placement.
7. Lay out and make basic duct work for residential dwellings.
8. Lay out, cut, and perform soldering and brazing techniques on copper tubing.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 69 Credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these Major courses.
3. §Students who take 601-113 (Facility Operating Engineer LP) and 601-117 (Facility Operating Engineer HP) may omit these courses.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Safety glasses are required in labs. If prescription safety glasses are required, allow a minimum of 90 days.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
4. Formerly 804-106, Intro to College Math.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Architecture & Construction	**Career Pathway ►** Design & Pre-Construction	**ARCHITECTURAL – STRUCTURAL ENGINEERING TECHNICIAN** **(10-614-6)** *Associate of Applied Science Degree* **Offered at: CATI & Elkhorn Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		607-103	*	Introduction to Civil Engineering & Architecture		2	1-2
		607-106	*	Building Materials	Coreq: 607-107	2	1-2
		607-107	*	Construction Methods	Coreq: 607-106	2	1-2
		607-169	*	Surveying Basics		2	1-2
		607-170	*	AutoCAD for Construction Sciences		2	1-2
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		607-102	*	Conflict Resolution in CET		2	1-2
		607-124	*	AutoCAD Applications for Civil	Prereq: 607-170	4	2-4
		607-128	*	Construction Estimating	Prereq: 607-106; 607-107	3	2-2
		607-132	*	Structural Mechanics	Prereq: 804-114	3	2-2
		607-136	*	Construction Project Management		2	1-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 3		607-134	*	Steel – Design and Detailing		2	1-2
		614-140	*	Mechanical Systems for Buildings	Prereq: 607-106; 607-107	3	2-2
		614-108	*	Residential Code	Coreq: 614-110	1	.5-1
		614-110	*	Architectural Drafting – Residential	Prereq: 607-124 Coreq: 614-108	3	1-4
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		806-154		General Physics 1	Prereq: 804-114	4	3-2
Semester 4		607-135	*	Reinforced Concrete	Prereq; 607-132	2	1-2
		614-114	*	Commercial Code	Coreq: 614-115	2	1-2
		614-115	*	Architectural Drafting – Commercial	Prereq: 614-110 Coreq: 614-114	3	1-4
		614-107	*	Residential and Commercial Inspection	Prereq: 614-108; Coreq: 614-114	3	1-4
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	

Suggested Electives:

607-117 Geographical Information Systems (2 Cr)
607-133 Prefab/Wood-Design/Detailing (2 Cr)
607-119 Civil Technology/Internship (1 Cr)
607-154 Sewer and Water (2 Cr)
607-180 AutoCAD for Arch (2 Cr)

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

Program Total Required ***70***

PROGRAM DESCRIPTION

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 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 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 of Architectural-Structural Engineering Tech should be able to:

1. Exhibit skills in multiple CAD environments, specifically AutoCAD and Revit
2. Measure field locations
3. Develop 3D computer models, maps, and drawings based field measurements.
4. Apply building codes to existing conditions and proposed designs.
5. Develop structural details for purposed conditions.
6. Differentiate between the various areas and functions within the profession.
7. Understand quantities, materials, equipment and methods used in the profession.
8. Exhibit proper and clear documentation and reporting skills
9. Exhibit individual ability to properly solve a problem
10. Work cooperatively in groups

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential computer skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, pre-algebra and algebra placement testing.

www.gtc.edu/engtech

GRADUATION REQUIREMENTS

1. 70 Credits with an average of 2.0 or above.
2. *A 2.0 (“C”) or above for these specific major core courses.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to enrollment in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
3. 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.
4. Classes offered at Elkhorn Campus via NODAL delivery. See www.gtc.edu/civileng for details.
5. Blackhawk Technical College students may take the majority of the core classes in this shared program via NODAL delivery at BTC’s Janesville campus.
6. The programs in the Construction Science Group include: Civil Engineering Tech: Highway Technology, Land Survey Technician, Architectural-Structural Engineering Technician, and Civil Engineering Technology: Fresh Water Resources.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Manufacturing	**Career Pathway ►** Manufacturing Production Process Development	**AUTOMATED MANUFACTURING SYSTEMS TECHNICIAN** **(10-628-3)** *Associate of Applied Science Degree* **Offered at: Elkhorn Campus &Lakeview Center**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		605-113	*	DC/AC I		3	2-2
		612-102	*	Pneumatics/Hydraulics, Introduction		3	2-2
		628-109	*	Mechanical Skills for Technicians		3	1-4
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
Semester 2		620-103	*	Intro to Industrial Controls		4	2-4
		628-125	*	Quality for Automated Manufacturing		3	2-2
		628-100	*	Automated Manufacturing Concepts/Intro		2	0-4
		628-110	*+	CNC/CAM Programming		3	1-4
		806-154		General Physics 1	Prereq: 804-114	4	3-2
Semester 3		620-110	*	Robotics / Mechanics I	Prereq: 605-113	3	2-2
		620-140	*	Programmable Controllers	Prereq: 620-103	2	1-2
		890-103		Employability Skills		2	1-2
		628-111	*	Computer Assisted Programming/Robot and FMS		3	1-4
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		606-126	*	AutoCAD, Introduction		2	0-4
		620-120	*	Feedback & Control Systems	Prereq: 605-113	2	1-2
		620-145	*	Programmable Logic Controllers – Advanced	Prereq: 620-140	3	1-4
		628-112	*	Computer Aided Manufacturing, Advanced		3	1-4
		625-121	*	MSSC Certification Preparation and Assessment		2	2-0
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 606-127 CAD Intermediate (2 Cr) 606-128 CAD Solids (2 Cr) 628-108 Field Experience (2 Cr) 612-115 Hydraulics / Advanced (3 Cr) 620-111 Intro to Solid State Circuits (4 Cr)					
					Program Total Required	***70***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Automated Manufacturing Systems Technician is designed to train technicians who can work in a factory which has a high level of automation. Emphasis is placed on automated systems, including production systems, material handling systems, and supervisory control systems. Training objectives will focus on system implementation, application, operation, and installation. The education is broad-based and multi-disciplinary and includes an understanding of electrical, electronic, electromechanical, and mechanical components, plus micro-processors, computers, inventory, and quality control.

PROGRAM LEARNING OUTCOMES

Graduates of the Automated Manufacturing Systems Technician Associate Degree Program should be able to:

1. Demonstrate knowledge of electricity, electronics, hydraulics and pneumatics.
2. Demonstrate a knowledge of sensor utilization for measuring flow, pressure, speed, voltage, current, torque, force, temperature, etc.
3. Demonstrate an understanding of PLC programming and program design.
4. Demonstrate proper use and operation of hand tools.
5. Analyze design solutions for electromechanical machines and devices as a team.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra, an testing.

GRADUATION REQUIREMENTS

1. 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 th

NOTES

1. A satisfactory placement test score (or successful remed to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, a and corequisites have been satisfied (or waived with depa

OTHER INFORMATION

Gateway Technical College reserves the right to modify c for students who interrupt enrollment for a period of two ye years to complete. Tuition and material fees are determin Wisconsin Technical College System. Consult the Master C fee amounts. Occasionally, the District may offer a p published sequence. By doing so, the District does not succeeding courses out of published sequence.

EQUAL OPPORTUNITY/ACCESS EDUCATOR /
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Transportation, Distribution & Logistics	**Career Pathway ►** Facility & Mobile Equipment Maintenance	**AUTOMOTIVE TECHNOLOGY** **(10-602-3)** *Associate of Applied Science* **Offered at: Kenosha Horizon Center**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		602-122	*	Auto IT for Transportation		2	1-2
		602-107	*	Auto Service Fundamentals	Prereq: 602-122	2	1-2
		602-104	*	Brake Systems	Prereq: 602-107	3	2-2
		602-124	*	Steering & Suspension Systems	Prereq: 602-107	3	2-2
		804-107		College Mathematics	Prereq: 834-109 (See Note 1)	3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 2		602-125	*	Electrical & Electronic Systems 1	Prereq: 602-107 Coreq: 804-107	2	2-0
		602-196	*	Climate Control Systems	Prereq: 602-125	3	2-2
		602-127	*	Electrical & Electronic Systems 2	Prereq: 602-125	3	2-2
		602-103	*	Engine Repair 1	Prereq: 602-127	2	1-2
		809-195		Economics	Prereq: 838-106 (See Note 1)	3	3-0
		801-196		Oral / Interpersonal Communication		3	3-0
Semester 3		602-197	*	Engine Performance 1	Prereq: 602-127; 602-103	3	2-2
		602-121	*	Auto Instrumentation & Testing	Prereq: 602-197	4	3-2
		602-128	*	Electrical & Electronic Systems 3	Prereq: 602-127	3	2-2
		602-149	*	Manual Drive Train & Axles	Prereq: 602-127	4	2-4
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		602-195	*	Advanced Chassis Systems	Prereq: 602-104; 602-127	2	2-0
		602-123	*	Engine Repair 2	Prereq: 602-103; Coreq: 801-197	3	1-4
		602-109	*	Auto Transmission/Transaxle	Prereq: 602-127	4	2-4
		602-198	*	Engine Performance 2	Prereq: 602-197	4	3-2
		602-120	*	Auto Service Simulation	Prereq: 602-109; 121; 123; 124; 128; 149; 195; 196; 198	2	0-4
		801-197		Technical Reporting	Prereq: 801-136	3	3-0

Program Total Required ***70***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Automotive Technology Associate Degree Program should 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 believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential computer skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra, placement testing.

GRADUATION REQUIREMENTS

1.70 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to Enrollment. See a counselor 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.
4. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval.)
5. Formerly 804-106, Intro to College Math.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	**BROADCAST CAPTIONING**
	Public Safety, Corrections & Security	Legal Services	(10-170-1) – Shared Program with Lakeshore Technical College *Associate of Applied Science Degree* **+ Gateway Courses Offered at: Kenosha Campus**

Δ Suggested Sequence	√	Course Number		Course Title / Location		Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		+ 801-136		English Composition 1	*(Taken at GTC)*	Prereq: 831-103 (See Note 1)	3	3-0
+ *Register at GTC*		+ 809-198		Psychology, Introduction to	*(Taken at GTC)*	Prereq: 838-105 (See Note 1)	3	3-0
θ *Register at LTC*		θ 10106104	§*	Realtime Reporting I	*(Broadcast at GTC)*		5	
		θ 10106144		Realtime Reporting Orientation	*(Taken at LTC)*		1	
		θ 10106159		Legal Terminology	*(Available Online)*		1	
		θ 10106184		English for Realtime Reporters	*(Broadcast at GTC)*		1	
		θ 10106804		Realtime Reporting I Lab	*(Broadcast at GTC)*		1	
Semester 2		+ 801-196 + 801-198	***OR***	Oral/Interpersonal Communication Speech	*(Taken at GTC)*		3	3-0 3-0
+ *Register at GTC*		+ 809-196		Sociology, Introduction to	*(Taken at GTC)*	Prereq: 838-105 (See Note 1)	3	3-0
θ *Register at LTC*		+ 809-172		Race, Ethnic and Diversity Studies	*(Taken at GTC)*		3	3-0
		θ 10106105	§*	Realtime Reporting II	*(Broadcast at GTC)*		5	
		θ 10106158		Realtime Reporting Technology	*(Broadcast at GTC)*		2	
		θ 10106805		Realtime Reporting II Lab	*(Broadcast at GTC)*		1	
Semester 3		θ 10106108		Realtime Reporting Speed Development	*(Broadcast at GTC)*		2	
Semester 4		+ 809-195		Economics	*(Taken at GTC)*	Prereq; 838-105 (See Note 1)	3	3-0
+ *Register at GTC*		θ 10106109	§*	Literary I	*(Broadcast at GTC)*	Prereq: 106-124	2	1-2
θ *Register at LTC*		θ 10106128	§*	Jury Charge I	*(Broadcast at GTC)*	Prereq: 106-124	2	1-2
		θ 10106809		Literary I Lab	*(Taken at GTC)*		1	
		θ 10106828		Jury Charge I Lab	*(Taken at GTC)*		1	
		θ 10106859		Testimony I Lab	*(Taken at GTC)*		1	
		θ 10106143		Judicial Reporting Internship	*(Off Campus)*		1	
		θ 10106156		Testimony I	*(Broadcast at GTC)*		3	
		+ 804-123 + 804-107	***OR***	Math with Business Applications College Mathematics	*(Taken at Gateway)*	Prereq: 834-109 (See Note 1) Prereq: 834-109 (See Note 1)	3	3-0 3-0
Semester 5		θ 10106111		Literary II	*(Broadcast at GTC)*		2	
+ *Register at GTC*		θ 10106129		Jury Charge II	*(Broadcast at GTC)*		2	
θ *Register at LTC*		θ 10106142		Judicial Reporting Procedures	*(Broadcast at GTC)*		2	
		θ 10106157	§*	Testimony II	*(Broadcast at GTC)*		3	
		θ 10106171		Medical Reporting & Terminology	*(Broadcast at GTC)*		2	
		θ 10106811	§*	Literary II Lab	*(Taken at GTC)*		1	0-2
		θ 10106829	§*	Jury Charge II Lab	*(Taken at GTC)*		1	
		θ 10106857		Testimony II Lab	*(Taken at GTC)*		1	
Semester 6		θ 10170101		Captioning/CART	*(Broadcast at GTC)*		4	
		θ 10170143		Internship in Broadcast Captioning/CART	*(Broadcast at GTC)*		1	

PROGRAM DESCRIPTION

Broadcast Captioning trains students to provide instantaneous text of programs. In this program the students will be trained in realtime transcription techniques and technology. These skills can also be used to provide CART (Communication Access Realtime Translation) for hearing-impaired students in educational as well as public settings. If you're an excellent listener, enjoy keyboarding, have strong language and communication skills, are committed to accuracy and able to work on deadline, a career in broadcast captioning may be a perfect fit for your talents.

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PROGRAM LEARNING OUTCOMES

Graduates of the Broadcast Captioning Associate Degree Program should be able to:

1. Develop proficiency in machine shorthand using realtime theory.
2. Develop a personal dictionary, read, translate, and edit transcripts using CAT (computer-assisted transcription) software.
3. Demonstrate knowledge of proper captioning procedures and responsibilities for captioning and CART reporting.
4. Demonstrate knowledge of the professional reporting organizations and methods of gaining certification as a Certified Broadcast Captioner.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

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

ADMISSION REQUIREMENTS

Consult the LTC website for Admission Requirements at www.goltc.edu

GRADUATION REQUIREMENTS

Consult the LTC website for Graduation Requirements at www.goltc.edu

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. There is a lease/purchase program for steno machines and laptop computers.
3. Students completing this shared program will receive their degree from Lakeshore Technical College.
4. Major Courses (*) in this program are taught via the Wisconsin Tech. College Network and may be taken at Gateway Technical College, Kenosha campus.
5. Any course may be taken prior to entry in the program, assuming all prerequisites and corequisites have been met (or waived with departmental approval).

OTHER INFORMATION

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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Business Management & Administration	**Career Pathway ►** General Management	**BUSINESS MANAGEMENT** **(10-102-3)** *Associate of Applied Science Degree* **Offered at: All Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		102-137	*	Business / Intro to		3	3-0
		104-101	*	Marketing Principles		3	3-0
		103-199	*	PC Basics / Microsoft Office		3	2-2
		196-100	*	Accelerated Learning		1	.5-1
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-123		Math with Business Applications	Prereq: 834-109 (See Note 1)	3	3-0
Semester 2		101-114	***OR**	Accounting Principles	*(Take 101-114 OR 101-112 & 103-103)*	4	3-2
		101-112 &		Accounting for Business &		3	3-0
		103-103		Excel II		1	.5-1
		104-104	*	Selling Principles		3	3-0
		196-190	*	Leadership Development		3	3-0
		801-198		Speech		3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		101-184	*	Business Finance & Budgeting		3	3-0
		102-160	*	Business Law		3	3-0
		104-105	*	Promotion Principles		3	3-0
		105-106	*	Business Communications	Prereq: 801-136	3	2-2
		196-191	*	Supervision		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		102-186	*	Business Management Internship	Prereq: Instructor Consent	3	1-0-0-8
		196-193	*	Human Resource Management		3	3-0
		809-166		Ethics: Theory & Applications, Intro to		3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 104-170 Business Purchasing (3 Cr) 104-194 International Marketing (3 Cr) 196-189 Team Building / Problem Solving (3 Cr)			104-171 Credit Procedures (3 Cr)		
					Program Total Required	***68***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Business Management Associate Degree Program should be able to:

1. Apply concepts, methods, processes and functions of management to business operations.
2. Communicate business information effectively using a variety of formats for a variety of audiences.
3. Analyze information to assist in problem solving and decision making that support the organization's mission.
4. Solve problems individually and in a team environment.
5. Evaluate ethical situations and apply principles of corporate social responsibility.
6. Apply HR concepts to establish and maintain effective working relationships in a multicultural setting.
7. Demonstrate basic accounting and financial skills.
8. Apply current and emerging technologies to business situations.
9. Appreciate the importance of personal and professional development for managers.
10. Apply marketing strategies.

OTHER INFORMATION

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ADMISSION REQUIREMENTS

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing and pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 68 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with departmental approval).

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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.

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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Science, Technology, Engineering & Mathematics	**Career Pathway ►** Engineering & Technology	**CIVIL ENGINEERING TECHNOLOGY-HIGHWAY TECHNOLOGY** **(10-607-4)** *Associate of Applied Science Degree* **Offered at: CATI & Elkhorn Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		607-103	*	Introduction to Civil Engineering & Architecture		2	1-2
		607-106	*	Building Materials	Coreq: 607-107	2	1-2
		607-107	*	Construction Methods	Coreq: 607-106	2	1-2
		607-169	*	Surveying Basics		2	1-2
		607-170	*	AutoCAD for Construction Science		2	1-2
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		607-102	*	Conflict Resolution in CET		2	1-2
		607-124	*	AutoCAD Applications for Civil	Prereq: 607-170	4	2-4
		607-128	*	Construction Estimating	Prereq: 607-106; 607-107	3	2-2
		607-132	*	Structural Mechanics	Prereq: 804-114	3	2-2
		607-136	*	Construction Project Management		2	1-2
		607-162	*	Materials Testing	Prereq: 607-106; 607-107	2	1-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 3		607-117	*	Geographical Information Systems I		2	1-2
		607-127	*	Civil Engineering Drafting		3	1-4
		607-173	*	Surveying Fundamentals	Prereq: 607-169	3	1-4
		806-154		General Physics 1	Prereq: 804-114	4	3-2
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		607-150	*	Survey Construction/ Route/ Highway	Prereq; 607-173	4	2-4
		607-152	*	Elements Inspections/ Contacts/ Specification	Prereq: 607-128	3	1-4
		607-154	*	Sewer and Water Systems		2	2-0
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 607-174 Land Surveying – Data Processing (2 Cr) 607-134 Steel Design and Detailing (2 Cr) 607-119 Civil Technology/Internship (1 Cr) 607-129 Future Trends-Civil/Architecture (2 Cr) 607-135 Reinforced Concrete Design and Detailing (2 Cr)					

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.* ***Program Total Required*** ***70***

PROGRAM DESCRIPTION

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 of the Civil Engineering Technology Program should be able to:

1. Exhibit skills in multiple CAD environments, specifically AutoCAD & MicroStation.
2. Measure field locations and topo
3. Develop 3D computer models, maps, and drawings based field measurements.
4. Develop 3D design models and plan set drawings.
5. Inspect field conditions, both existing and under construction.
6. Differentiate between the various areas and functions within the profession.
7. Understand quantities, materials, equipment and methods used in the profession.
8. Exhibit proper and clear documentation and reporting skills
9. Exhibit individual ability to properly solve a problem
10. Work cooperatively in groups

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential computer skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, pre-algebra and algebra placement testing.

www.gtc.edu/engtech

GRADUATION REQUIREMENTS

1. 70 Credits with an average of 2.0 or above.
2. *A 2.0 (“C”) or above for these specific major core courses.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to enrollment in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
3. 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.
4. Classes offered at Elkhorn Campus via NODAL delivery. See www.gtc.edu/civileng for details.
5. Blackhawk Technical College students may take the majority of the core classes in this shared program via NODAL delivery at BTC’s Janesville campus.
6. The programs in the Construction Science Group include: Civil Engineering Tech: Highway Technology, Land Survey Technician, Architectural-Structural Engineering Technician, and Civil Engineering Technology: Fresh Water Resources.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.
My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Science, Technology, Engineering & Mathematics	**Career Pathway ►** Engineering & Technology	**CIVIL ENGINEERING TECHNOLOGY – FRESH WATER RESOURCES** **(10-607-9)** *Associate of Applied Science Degree* **Offered at: CATI & Elkhorn Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		607-103	*	Introduction to Civil Engineering & Architecture		2	1-2
		607-106	*	Building Materials	Coreq: 607-107	2	1-2
		607-107	*	Construction Methods	Coreq: 607-106	2	1-2
		607-169	*	Surveying Basics		2	1-2
		607-170	*	AutoCAD for Construction Sciences		2	1-2
		804-115		College Technical Math 1	Prereq: 854-769	5	5-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		607-102	*	Conflict Resolution in CET		2	1-2
		607-124	*	AutoCAD Applications for Civil	Prereq: 607-170	4	2-4
		607-132	*	Structural Mechanics	Prereq: 804-114	3	2-2
		607-136	*	Construction Project Management		2	1-2
		806-134	*	General Chemistry	Prereq: 804-107	4	3-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 3		607-117	*	Geographical Information Systems I		2	1-2
		607-181	*	Hydrology and Conservation		2	2-0
		607-182	*	Sampling and Testing	Prereq: 806-134	2	1-2
		607-183	*	Fresh Water Treatment		3	2-2
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		806-154		General Physics 1	Prereq: 804-114	4	3-2
Semester 4		607-154	*	Sewer and Water Systems		2	2-0
		607-184	*	Environmental Impact		2	2-0
		607-185	*	Waste Water Treatment		3	2-2
		607-186	*	Erosion Control		2	1-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 614-108 Residential Code (1 Cr) 607-152 Elements of Inspections (3 Cr) 607-119 Civil Technology/Internship (1 Cr) 614-114 Commercial Code (2 Cr) 607-129 Future Trends (2 Cr)					

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

Program Total Required ***70***

PROGRAM DESCRIPTION

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 of the Fresh Water Resources Program should be able to:

1. Exhibit skills in multiple CAD environments.
2. Measure field locations
3. Develop 3D computer models, maps, and drawings based field measurements.
4. Exhibit proper sampling and testing skills.
5. Acquire fresh water knowledge to aid in obtaining appropriate certifications.
6. Differentiate between the various areas and functions within the profession.
7. Understand quantities, materials, equipment and methods used in the profession.
8. Exhibit proper and clear documentation and reporting skills
9. Exhibit individual ability to properly solve a problem
10. Work cooperatively in groups

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential computer skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, pre-algebra and algebra placement testing.

www.gtc.edu/engtech

GRADUATION REQUIREMENTS

1. 70 Credits with an average of 2.0 or above.
2. *A 2.0 (“C”) or above for these specific major core courses.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to enrollment in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
3. 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.
4. Classes offered at Elkhorn Campus via NODAL delivery. See www.gtc.edu/civileng for details.
5. Blackhawk Technical College students may take the majority of the core classes in this shared program via NODAL delivery at BTC’s Janesville campus.
6. The programs in the Construction Science Group include: Civil Engineering Tech: Highway Technology, Land Survey Technician, Architectural-Structural Engineering Technician, and Civil Engineering Technology: Fresh Water Resources.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Public Safety, Corrections & Security	**Career Pathway ►** Law Enforcement Services	**CRIMINAL JUSTICE-LAW ENFORCEMENT** (10-504-1) *Associate of Applied Science Degree* **Offered at: Elkhorn & Kenosha Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		504-121	*	Criminal Justice System, Intro to		3	3-0
		504-149	*	Criminal Law		3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		801-198		Speech		3	3-0
		804-107		College Mathematics	Prereq: 834-109 (See Note 1 & 5)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		103-199		PC Basics / Microsoft Office		3	2-2
		504-122	*	Traffic Theory		3	3-0
		504-123	*	Juvenile Law		3	3-0
		504-141	*	Interview, Interrogations, Confessions		3	3-0
		801-196		Oral/Interpersonal Communication		3	3-0
		809-159		Psychology, Abnormal	Prereq: 809-198	3	3-0
Semester 3		504-138	*	Community Policing / Patrol Proc.	Prereq; 504-121	3	3-0
		504-117	*	Police Administration	Prereq: 504-121	3	3-0
		504-148	*	Rules of Evidence	Prereq: 504-121	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		504-114	*	Criminal Investigation Theory	Prereq: 504-149; 504-121 Coreq: 504-148	3	2-2
		504-140	*	Law Enforcement Report Writing	Prereq: 504-149; 801-136	3	3-0
		504-144	*	Constitutional Law	Prereq: 504-149 Coreq: 504-148	3	3-0
		802-111 504-176	***OR***	Spanish I Spanish for Law Enforcement		3	2-2 3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	

Suggested Electives:

504-116 Civil Law (3 Cr)	504-173 Cyber Crime (3 Cr)
504-139 Professional Communications (3 Cr)	504-174 Intro to Security (3 Cr)
504-152 Police Internship (3 Cr)	504-175 Terrorism / Homeland Security (3 Cr)

Program Total Required ***66***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Criminal Justice-Law Enforcement prepares students for careers as law enforcement professionals in such settings as sheriff's departments, police departments, state patrol offices, and private security organizations. Criminal Justice-Law Enforcement specialty and support courses are designed to expose students to a host of diverse subject areas necessary for effective work in contemporary law enforcement. Full-time students may complete all degree requirements in two years.

PROGRAM LEARNING OUTCOMES

Graduates of the Criminal Justice Associate Degree Program should be able to:

1. Demonstrate the job entry physical skills required for employment and state certification.
2. Apply ethical work standards necessary with law enforcement.
3. Demonstrate community awareness.
4. Perform emergency medical services.
5. Demonstrate professional orientation.
6. Perform patrol operations.
7. Demonstrate the ability to operate a motor vehicle according to state L.E.S.B.
8. Perform computer skills needed in the law enforcement arena.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must verify, through official transcripts, high school, GED or HSED completion.

GRADUATION REQUIREMENTS

1. 66 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Students who complete this associate degree and who wish to be pre-Certified as Wisconsin Law Enforcement Officers must successfully complete an approved Wisconsin Law Enforcement Academy – 520 hour curriculum. This certifiable status is valid for the period of 2 years. Additional Admission requirements pursuant to the Wisconsin Law Enforcement Standards Board will be applicable to pre-Certification.
3. Law Enforcement Academy: Students must attend and successfully complete all components of this program within the specified time period (520hrs – Full time program 15 weeks) to achieve the status of "Certifiable Law Enforcement Officer" according to the State of Wisconsin Law Enforcement Standards Board.
4. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
5. Formerly 804-106, Intro to College Math.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Hospitality & Tourism	**Career Pathway ►** Restaurants and Food/Bev. Services	**CULINARY ARTS** **(10-316-1)** *Associate of Applied Science Degree* **Offered at: Racine Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		109-101		Hospitality, Principles of		3	3-0
		316-104	*	Short Order Deli	Coreq: 316-170	2	0-4
		316-130	*	Nutrition		2	2-0
		316-131	*	Culinary Skills I	Coreq: 316-170	4	2-4
		316-170	*	Sanitation and Hygiene		1	1-0
		801-196		Oral/Interpersonal Communication		3	3-0
		804-123		Math with Business Apps	Prereq: 834-109 (See Note 1)	3	3-0
Semester 2		101-112		Accounting for Business		3	3-0
		103-199		PC Basics / Microsoft Office		3	2-2
		316-132	*	Culinary Skills II	Prereq: 316-131	4	1-6
		316-133	*	Menu Planning, Purchasing, Cost Control		3	3-0
		316-134	*	Garde Manger		1	0-2
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		316-105	*	International Buffets	Prereq: 316-132	4	1-6
		316-190	*	Food Service Supervision		3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		809-166		Ethics: Theory & Applications, Intro to		3	3-0
Semester 4		196-123		Problem Solving/Decision Making		2	2-0
		316-125	*	Fine Dining	Prereq: 316-131; 316-132; 316-135	4	1-6
		316-135	*	Catering/Banquets	Prereq: 316-132	2	1-2
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	

Suggested Electives:

104-101 Marketing Principles (3 Cr)
316-110 Baking for Chefs (3 Cr)
316-136 Culinary Competition I (1 Cr)
316-137 Culinary Competition II (1 Cr)
196-190 Leadership Development (3 Cr)

Program Total Required ***68***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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. Work in a safe manner.
2. Work in a sanitary manner.
3. Demonstrate food preparation and production skills.
4. Develop customer skills.
5. Demonstrate a positive work ethic by arriving on time and calling in when ill.
6. Plan a balanced menu.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 68 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. A uniform and physical are required for this program.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Transportation, Distribution & Logistics	**Career Pathway ►** Facility & Mobile Equipment Maintenance	**DIESEL EQUIPMENT TECHNOLOGY** **(10-412-1)** *Associate of Applied Science Degree* **Offered at: Kenosha Horizon Center**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		412-117	*	Diesel Suspension & Steering Systems	Prereq: 412-111	3	1-4
		412-111	*	Diesel Maintenance Fundamentals		2	1-2
		412-107	*	Diesel Electricity 1	Prereq: 412-111	4	2-4
		412-114	*	Diesel Heating, Cooling & Air Cond	Prereq: 412-111	3	2-2
		804-107		College Mathematics	Prereq: 834-109 (See Note 1)	3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 2		412-109	*	Diesel Engine Service	Prereq: 412-111	5	2-6
		412-106	*	Diesel Brake Systems	Prereq: 412-111	4	2-4
		412-115	*	Diesel Hydraulic Systems	Prereq: 412-111	2	1-2
		801-196		Oral/Interpersonal Communication		3	3-0
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Semester 3		412-110	*	Diesel Fuel Systems	Prereq: 412-109	3	2-2
		412-108	*	Diesel Electricity 2	Prereq: 412-107	3	2-2
		412-116	*	Diesel Preventative Maintenance	Prereq: 412-110	3	1-4
		809-196		Introduction to Sociology	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		412-113	*	Diesel Fuel Systems - Advanced	Prereq: 412-110	3	2-2
		412-105	*	Diesel Control Systems - Advanced	Prereq: 412-108; 109; 112; 113; 114	4	3-2
		412-112	*	Diesel Drive Trains	Prereq: 412-108	4	2-4
		809-198		Psychology, Intro to	Prereq: 838-105 (See Note 1)	3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
					Program Total Required	***70***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Diesel Equipment Technology Program should be able to:

1. Diagnose, service and repair diesel engines.
2. Diagnose, service and repair diesel drive trains.
3. Diagnose, service and repair diesel suspension and steering systems.
4. Diagnose, service and repair diesel brake systems.
5. Diagnose, service and repair diesel electricity and electronic systems.
6. Diagnose, service and repair diesel heating, cooling and air cond. Systems.
7. Diagnose, service and repair diesel fuel systems.
8. Diagnose, service and repair diesel engine control systems.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 70 Credits with an average of 2.0 or above.
2. Average of 2.0 (“C”) or above for all 412 major courses.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Tablet computer required for this program. See a counselor for a fact sheet describing minimum requirement.
3. Work uniforms are required. See counselor for details.
4. Safety glasses are required in labs. If prescription safety glasses are required, allow a minimum of 90 days.
5. Any course may be taken prior to entry in the program, assuming prerequisites and/or co-requisite requirements have been satisfied (or waived with departmental approval).
6. A state issued Commercial Driver License (CDL) is not required for the program but highly recommended. Gateway Technical College does not offer CDL training.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Human Services	**Career Pathway ►** Early Childhood Development & Services	**EARLY CHILDHOOD EDUCATION** **(10-307-1)** *Associate of Applied Science Degree* **Offered at: Racine Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		307-148	*	ECE: Foundations of Early Childhood Education		3	3-0
		307-151	*	ECE: Infant & Toddler Development		3	3-0
		307-166	*	ECE: Curriculum Planning		3	3-0
		307-167	*	ECE: Health, Safety & Nutrition		3	3-0
		307-174	*	ECE: Practicum 1	(See Note 1)	3	2-0-3
		801-136		English Composition 1	Prereq: 831-103 (See Note 2)	3	3-0
Semester 2		307-178	*	ECE: Art, Music and Language Arts		3	3-0
		307-179	*	ECE: Child Development		3	3-0
		307-188	*	ECE: Guiding Children's Behavior		3	3-0
		307-192	*	ECE: Practicum 2	(See Note 1)	3	1-0-6
		809-172		Race, Ethnic and Diversity Studies		3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
Semester 3		307-187	*	ECE: Children with Differing Abilities		3	3-0
		307-194	*	ECE: Math, Science & Social Studies		3	3-0
		307-195	*	ECE: Family and Community Relationships		3	3-0
		307-197	*	ECE: Practicum 3	(See Note 1)	3	1-0-6
		801-198		Speech		3	3-0
		809-128		Marriage and Family		3	3-0
Semester 4		307-198	*	ECE: Administering an Early Childhood Ed. Program		3	3-0
		307-199	*	ECE: Practicum 4	(See Note 1)	3	1-0-6
		801-196		Oral/Interpersonal Communication		3	3-0
		804-107		College Mathematics	Prereq: 834-109 (See Note 2 & 4)	3	3-0
Electives		***Take 3 elective credits. Any associate degree level course may be taken as an elective.***				***3***	
		Suggested Electives: 307-100 Children's Play (3 Cr) 307-125 Inclusive Classroom, the (2 Cr) 307-126 Resources/Collaboration (2 Cr) 307-150 Emerging Literacy (3 Cr)					
					Program Total Required	***69***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Early Childhood Education is designed to prepare students for a professional career in early childhood education. Students learn skills to plan environments and educational programs that are developmentally appropriate and promote optimal growth and development of young children. Along with academic coursework in child development, students participate in four semesters of field placements in Gateway's Early Childhood Lab as well as other community programs. Graduates of this two-year program are employed in child care centers, nursery or preschools, Head Start, parent cooperatives, before- and after-school programs, and family care homes as assistant teachers, teachers, program directors, and program administrators in programs serving infants, toddlers, preschoolers, and younger school age children.

PROGRAM LEARNING OUTCOMES

Graduates of the Early Childhood Education Associate Degree Program should 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 believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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 pre-algebra placement testing.
3. Students must verify, through official transcripts, high school transcripts, high school, GED or HSED completion.
4. Students must complete a BID form and pay a CBC fee.

GRADUATION REQUIREMENTS

1. 69 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.

NOTES

1. These courses require instructor consent, which will only be given if the courses are taken in sequence and proper physical and immunization records are submitted, and the Background Information Disclosure (BID) form has been completed.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
4. Formerly 804-106, Intro to College Math.

OTHER INFORMATION

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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Science, Technology, Engineering & Mathematics	**Career Pathway ►** Engineering & Technology	**ELECTRICAL ENGINEERING TECHNOLOGY** **(10-662-1A)** *Associate of Applied Science Degree* **Offered at: Racine Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		605-113	*	DC/AC I		3	2-2
		605-130	*	Digital Electronics	Coreq: 605-113	4	3-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		605-114	*	DC/AC II	Prereq: 605-113	3	2-2
		605-120	*	Electronic Devices I	Prereq: 605-113	4	2-4
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		804-197		College Algebra & Trig w Apps	Prereq: 804-114	5	5-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		605-121	*	Electronic Devices II	Prereq: 605-120	4	2-4
		605-190	*	Microprocessors	Coreq: 605-114; 605-121	4	2-4
		662-112	*	DC/AC III	Prereq: 605-114	3	2-2
		804-198	*	Calculus 1	Prereq: 804-197	4	4-0
		806-143	*	College Physics 1	Prereq: 804-113	3	3-0
Semester 4		662-124	*	Electronic Circuit Analysis	Prereq: 605-120	3	2-2
		804-181	*	Calculus 2	Prereq: 804-198	4	4-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 605-150 Industrial Electronics (3 Cr) 605-151 Electronic Communication (3 Cr)					
					Program Total Required	***70***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Electrical Engineering Tech. Associate Degree Program should be able to:

1. Demonstrate the proper use of appropriate electronic test equipment.
2. Signal trace a circuit utilizing only a schematic as a reference.
3. Demonstrate proper solder/desoldering techniques.
4. Write technical lab reports.
5. Communicate effectively, in both a formal presentation and in general conversation.
6. Construct, test, and evaluate electronic circuits.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See counselor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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 **Effective 2010/2011**	**Career Cluster ►** Science, Technology, Engineering & Mathematics	**Career Pathway ►** Engineering & Technology	**ELECTRICAL ENGINEERING TECHNOLOGY** **(10-662-1B) – Biomedical Engineering** *Associate of Applied Science Degree* **Offered at: Racine Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		605-113	*	DC/AC I		3	2-2
		605-130	*	Digital Electronics		4	3-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		605-114	*	DC/AC II	Prereq: 605-113	3	2-2
		605-120	*	Electronic Devices I	Prereq: 605-113	4	2-4
		662-102	*	Medical Devices Function & Use I		3	2-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		804-197		College Algebra & Trig w/ Apps	Prereq: 804-114	5	5-0
Semester 3		605-121	*	Electronic Devices II	Prereq: 605-120	4	2-4
		605-190	*	Microprocessors	Coreq: 605-114; 605-121	4	2-4
		662-112	*	DC/AC III	Prereq: 605-114	3	2-2
		804-198	*	Calculus 1	Prereq: 804-197	4	4-0
		806-143	*	College Physics 1	Prereq: 804-113	3	3-0
Semester 4		662-124	*	Electronic Circuit Analysis	Prereq: 605-120	3	2-2
		662-103	*	Medical Devices Function & Use II		3	2-2
		662-101	*	Safety in Healthcare		1	1-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 605-150 Industrial Electronics (3 Cr) 605-151 Electronic Communication (3 Cr) 804-181 Calculus 2 (4 Cr)					
					Program Total Required	***70***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Electrical Engineering Tech. Associate Degree Program should be able to:

1. Demonstrate the proper use of appropriate electronic test equipment.
2. Signal trace a circuit utilizing only a schematic as a reference.
3. Demonstrate proper solder/desoldering techniques.
4. Write technical lab reports.
5. Communicate effectively, in both a formal presentation and in general conversation.
6. Construct, test, and evaluate electronic circuits.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See counselor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Science, Technology, Engineering & Mathematics	**Career Pathway ►** Engineering & Technology	**ELECTRICAL ENGINEERING TECHNOLOGY** **(10-662-1C) – Sustainable Energy Systems** *Associate of Applied Science Degree* **Offered at: Racine Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		605-113	*	DC/AC I		3	2-2
		605-130	*	Digital Electronics	Coreq: 605-113	4	3-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		605-114	*	DC/AC II	Prereq: 605-113	3	2-2
		605-120	*	Electronic Devices I	Prereq: 605-113	4	2-4
		482-110	*	Sustainable Energy, Intro to		2	1-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		804-197		College Algebra & Trig w Apps	Prereq: 804-114	5	5-0
Semester 3		605-121	*	Electronic Devices II	Prereq: 605-120	4	2-4
		605-190	*	Microprocessors	Coreq: 605-114; 605-121	4	2-4
		662-112	*	DC/AC III	Prereq: 605-114	3	2-2
		804-198	*	Calculus 1	Prereq: 804-197	4	4-0
		482-111	*	Sustainable Energy: Gen of Elec	Prereq: 482-110	2	1-2
Semester 4		662-124	*	Electronic Circuit Analysis	Prereq: 605-120	3	2-2
		482-112	*	Capstone Design Project	Prereq: 482-110; 482-112	3	2-2
		806-143	*	College Physics 1	Prereq: 804-113	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 605-150 Industrial Electronics (3 Cr) 605-151 Electronic Communication (3 Cr) 804-181 Calculus II (4 Cr)					
					Program Total Required	***70***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Electrical Engineering Tech. Associate Degree Program should be able to:

1. Demonstrate the proper use of appropriate electronic test equipment.
2. Signal trace a circuit utilizing only a schematic as a reference.
3. Demonstrate proper solder/desoldering techniques.
4. Write technical lab reports.
5. Communicate effectively, in both a formal presentation and in general conversation.
6. Construct, test, and evaluate electronic circuits.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See counselor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Manufacturing	**Career Pathway ►** Manufacturing Production Process Development	**ELECTROMECHANICAL TECHNOLOGY** **(10-620-1)** *Associate of Applied Science Degree* **Offered at: Kenosha Lakeview Center**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		605-113	*	DC/AC I		3	2-2
		612-102	*	Pneumatics / Hydraulics, Intro to		3	2-2
		628-109	*	Mechanical Skills for Technicians		3	1-4
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
Semester 2		620-103	*	Intro to Industrial Controls		4	2-4
		620-111	*	Intro to Industrial Solid State Circuits	Prereq: 605-113	4	2-4
		628-111	*	Computer Assisted Programming / Robot and FMS		3	1-4
		806-154		General Physics 1	Prereq: 804-114	4	3-2
Semester 3		620-110	*	Robotic Mechanics I	Prereq: 605-113	3	2-2
		620-140	*	Programmable Controllers	Prereq: 620-103	2	1-2
		620-150	*	Electromechanical Drives	Prereq: 605-113	3	1-4
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		620-113	*	Troubleshooting Electrical/Electronic Systems	Prereq: 620-140; Coreq: 620-145	3	2-2
		620-102	*	Process Controls	Coreq: 620-111	3	2-2
		620-145	*	Programmable Logic Controllers/Adv.	Prereq: 620-140	3	1-4
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 196-135 Business Concepts, Ethics, Principles (2 Cr) 606-126 AutoCAD, Introduction (2 Cr) 890-103 Employability Skills (2 Cr) 628-108 Field Experience (2 Cr)					
					Program Total Required	***64***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

The emerging field of *Electromechanical Technology* and associated robotics equipment is covered in this program, which can be completed in two years of study if taken full-time. Topics covered during classroom lectures and through practical experience on modern equipment include manufacturing processes, principles of electrical and hydraulic systems, robotics mechanics, programmable controllers, and control systems. Other items which are covered include microcomputer processing systems, basic fluid power, technical report writing, human relations, and communications skills.

PROGRAM LEARNING OUTCOMES

Graduates of the Electromechanical Technology Associate Degree Program should be able to:

1. Design solutions for Electromechanical machines.
2. Demonstrate knowledge of electricity, electronics, hydraulics, and pneumatics.
3. Demonstrate knowledge of sensor utilization for measuring flow, pressure, speed, voltage, current, torque, force, temperature, etc.
4. Understand PLC programming and program design.
5. Write computer programs to accomplish a given task.
6. Identify basic motor types and standard applications.
7. Analyze design solutions for electromechanical mach.and devices as a team.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 64 Credits with an average of 2.0 or above.
2. *Average of 2.0 (“C”) or above for theses major courses.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor 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. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Science, Technology, Engineering & Mathematics	**Career Pathway ►** Engineering & Technology	**ELECTRONICS** **(10-605-1)** *Associate of Applied Science Degree* **Offered at: Racine Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		605-113	*	DC/AC I		3	2-2
		605-130	*	Digital Electronics		4	3-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		605-114	*	DC/AC II	Prereq: 605-113	3	2-2
		605-120	*	Electronic Devices I	Prereq: 605-113	4	2-4
		806-154	*	General Physics 1	Prereq: 804-114	4	3-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		605-109	*	Fabrication Techniques		1	0-2
		605-121	*	Electronic Devices II	Prereq: 605-120	4	2-4
		605-174	*	Digital Circuits II	Prereq: 605-130	3	2-2
		605-190	*	Microprocessors	Coreq: 605-114; 605-121	4	2-4
		804-116		College Technical Math 2	Prereq: 804-113; 804-114	4	4-0
Semester 4		605-150	*	Industrial Electronics	Prereq: 605-114; 605-120	3	2-2
		605-151	*	Electronic Communications	Prereq: 605-114; 605-120	3	2-2
		605-176	*	Optoelectronics	Prereq: 605-114; 605-120	2	1-2
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 605-181 Computer Hardware Arch (3 Cr) 605-182 Computer Interfacing Tech (3 Cr) 605-184 Data Acquisition (3 Cr)					
					Program Total Required	***68***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Electronics Associate Degree Program should be able to:

1. Demonstrate the proper use of appropriate electronic test equipment.
2. Signal trace a circuit utilizing only a schematic as a reference.
3. Demonstrate proper solder / desoldering techniques.
4. Write technical lab reports.
5. Communicate effectively, in both a formal presentation and in general conversation.
6. Construct, test, and evaluate electronic circuits.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 68 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See Counselor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Public Safety, Corrections & Security	**Career Pathway ►** Emergency & Fire Management Services	**FIRE PROTECTION TECHNICIAN** **(10-503-2)** *Associate of Applied Science Degree* **Offered at: Racine Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		503-143	*	Building Construction		3	3-0
		503-142	*	Fire Fighting Principles		4	2-4
		503-127	*	Fire Service/Changing Technologies		2	1-2
		503-139	*	Principles of Emergency Service		3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
Semester 2		503-147	*	Fire Protection Systems		4	4-0
		503-151	*	Fire Prevention		4	4-0
		531-192	*	Basic Emergency Medical Tech.		4	0-8
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		806-143		College Physics 1	Prereq: 804-113	3	2-2
Semester 3		503-110	*	Fire Safety Communication		3	3-0
		503-117	*	Health and Wellness for Firefighters		3	3-0
		503-152	*	Hazardous Materials		4	3-2
		503-155	*	Fire Protection Hydraulics	Prereq: 503-142	4	3-2
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		503-156	*	Strategies, Tactics & Incident Mgmt.		4	4-0
		503-157	*	Fire Investigation		3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 3 elective credits. Any associate degree level course may be taken as an elective.***				***3***	
		Suggested Electives: 196-164A Time Management (1 Cr) 503-120 Fire Science Student Internship (2 Cr) 503-128 Fire Dept Management (3 Cr)			196-164B Stress Management (1 Cr)		
					Program Total Required	***69***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Fire Protection Technician graduates learns to provide fire protection services, whether in an industrial, insurance, or public capacity, using the latest scientific and managerial concepts for effective preparedness and response. Fire protection, safety, and administration are emphasized. Instruction includes arson and fire investigation, fire protection systems, fire prevention, fire codes, hazardous materials, fire ground tactics and strategies, and industrial hazards. The program may be completed in two years of study if taken full-time.

PROGRAM LEARNING OUTCOMES

Graduates of the Fire Protection Technician Associate Degree Program should be able to:

1. Demonstrate professional conduct by displaying personal code of ethics, positive work ethics, flexibility, teamwork skills, physical fitness, safe procedures, and sensitivity to diverse cultures and individuals.
2. Perform fire prevention activities including preplanning, public education, inspection, and investigation.
3. Apply incident management skills to emergency incidents.
4. Meet professional fire and EMS credentialing standards.
5. Communicate clearly and effectively both verbally and through written documentation with clients, coworkers, other agencies, and supervisors.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 69 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Eye protection may be required in some courses. If prescription safety glasses are required, allow a minimum of 90 days.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Arts, A/V Technology & Communications	**Career Pathway ►** Visual Arts	**GRAPHIC COMMUNICATIONS** **(10-204-3)** *Associate of Applied Science Degree* **Offered at: Elkhorn and Racine Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		204-100	*	Design Concepts		4	3-2
		204-105	*	Comp.Illustration & Drawing Tech		3	2-2
		204-107	*	Digital Photography, Intro to		3	2-2
		204-125	*	Illustration Media Concepts		3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 2		204-116	*	Web Page Design For Graphic Designers	Prereq: 204-107	3	2-2
		204-120	*	Multimedia Survey		3	2-2
		204-126	*	Design & Publishing	Prereq: 204-100	3	2-2
		204-127	*	Digital Prepress Fundamentals	Coreq: 204-126	3	2-2
		801-196		Oral/Interpersonal Communication		3	3-0
		804-133		Mathematics and Logic	Prereq: 854-769 (See Note 1)	3	3-0
Semester 3		204-109	*	Graphic Design Professional Practices	Prereq: 204-126	3	2-2
		204-134	*	Advanced Problems in Graphic Design	Prereq: 204-126	3	2-2
		204-135	*	Advanced Design Concepts	Prereq: 204-126	4	3-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		204-142	*	Applied Exit Strategies/Display Graphic	Prereq: 204-109	3	2-2
		204-143	*	Advanced Illustration	Prereq: 204-105	3	2-2
		801-198		Speech		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 204-115 Advanced Digital Photography (3 Cr) 204-149 Advanced Web Page Design (3 Cr)					
					Program Total Required	***68***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Graphics Communications Associate Degree Program should be able to:

1. Students demonstrate entry level typography skills.
2. Students demonstrate entry level design skills.
3. Students demonstrate entry level production and printing skills.
4. Students demonstrate entry level communication and career skills.
5. Students demonstrate entry level computer literacy skills.
6. Students demonstrate entry level creativity skills.
7. Students demonstrate entry level knowledge of graphic design and business practices.
8. Prepare a graphic design portfolio appropriate for gaining entry-level employment.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 68 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. The Graphic Communications program at Gateway Technical College has course articulation degree completion agreements with UW-Parkside and Carthage College. See a counselor for details.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	HEALTH INFORMATION TECHNOLOGY (10-530-1)
	Health Science	Health Informatics	*Associate of Applied Science Degree* **Offered at: Racine Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		501-101	*	Medical Terminology	Prereq: 838-105 (See Note 1)	3	3-0
		530-172	*	Healthcare Delivery Systems	Prereq: Counselor Consent	2	2-0
		530-181	*	Introduction to the Health Record	Prereq: Counselor Consent	1	0-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		806-189		Anatomy, Basic		3	2-2
		806-177	*OR*	General Anatomy and Physiology	Prereq: 806-134 (See Note 5)	4	3-2
		801-198		Speech		3	3-0
		809-166		Ethics: Theory & Applications, Intro to		3	3-0
Semester 2		530-176	*	Health Data Management	Prereq: 530-172; 530-181	2	1-2
		530-182	*	Human Diseases for Health	Prereq: 501-101; 806-189 **OR** 806-177 & Counselor Consent	3	3-0
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		804-107		College Mathematics	Prereq: 834-109 (See Note 1 & 7)	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		530-177	*	Healthcare Statistics & Research	Prereq: 530-176	2	2-0
		530-178	*	Healthcare Legal and Ethical Issues	Prereq: 530-176	2	2-0
		530-183	*	ICD-9-CM Coding	Prereq: Counselor Consent Coreq: 530-181; 530-182	3	2-2
		530-190	*	Healthcare Information Systems	Prereq: 103-199; 530-176	3	2-2
Semester 4		530-184	*	CPT-4 Coding	Prereq: 530-181; 530-182	3	2-2
		530-185	*	Reimburse – Healthcare	Prereq: 530-182; 530-183 Coreq: 530-184	2	2-0
		530-193	*	Healthcare Quality Management	Prereq: 530-177	2	2-0
		530-194	*	HIM Organizational Resources	Prereq: Counselor Consent Coreq: 530-193	2	2-0
		530-195	*	Applied Coding	Prereq: Counselor Consent Coreq: 530-185	2	2-0
		530-196	*	Professional Practice Experience I	Prereq: 530-177; 530-178; 530-183 Coreq: 530-184	3	1-0-6
Summer		530-198	*	Professional Practice Experience II	Prereq: 530-196; 530-190 Coreq: 530-193; 530-194; 530-195	3	1-0-6
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives:			103-199 PC Basics / Microsoft Office (3 Cr)		
		103-106 Microsoft Access II (1 Cr)			103-105 Microsoft Access (1 Cr)		
		103-107 Microsoft Access III (1 Cr)			890-161 Critical Thinking (3 Cr)		
					Program Total Required	***68***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Health Information Technology prepares individuals for employment in middle-level positions in health information departments in hospitals and other health care facilities with the basics for a career as a health information technician. The program will involve classroom study, laboratory simulation, and directed clinical practice experience in health care facilities. Health information technicians maintain and retrieve health information in the most efficient, timely, and accessible manner through their broad knowledge of anatomy, physiology, medical terminology, and pathophysiology. The Health Information (medical records) Technology program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIM) in cooperation with the Council on Accreditation of the American Health Information Management Association. Grads who successfully pass the national accreditation exam may use the credential "RHIT", Registered Health Information Technician.

PROGRAM LEARNING OUTCOMES

Graduates of the Health Information Technology Program should be able to:

1. Adhere to health information requirements and standards.
2. Utilize clinical classifications.
3. Support data collection and reimbursement systems.
4. Abstract health care data for analysis and presentation.
5. Adhere to security, privacy and confidentiality policies.
6. Use information technology systems to process health information.
7. Apply organizational management techniques to improve efficiency of departmental functions and services.
8. Model professional behavior, ethics, and appearance.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential computer skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, and pre-algebra placement testing.
3. Students must verify, through official transcripts, high school, GED or HSED completion.
4. Students must complete a Wisconsin residency form.
5. Students must complete a BID form and pay a CBC fee.

GRADUATION REQUIREMENTS

1. 68 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Clinical sites may require proof of insurance and criminal background checks.
3. A liability insurance of approximately $13 in the fourth semester and summer session is required.
4. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
5. The prerequisite for this course must have been completed with a minimum grade of a „C" or better.
6. Students must meet petition requirements prior to enrolling in 530 courses.
7. Formerly 804-106, Intro to College Math.

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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	HORTICULTURE (10-001-1A) – Greenhouse & Floral *Associate of Applied Science Degree* Offered at: Kenosha Campus
	Agriculture, Food & Natural Resources	Plant Systems	

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		001-107	*	Plant Biology for Horticulture		3	2-2
		001-135	*	Plant Propagation		3	2-2
		001-144	*	Floral Design I / Commercial		3	1-4
		103-199		PC Basics / Microsoft Office		3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 2		001-102	*	Plant Pests & Control		3	2-2
		001-151	*	Greenhouse Crops		3	2-2
		801-198		Speech		3	3-0
		804-123		Math with Business Applications	Prereq: 834-109 (See Note 1)	3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		001-128	*	Horticulture Marketing		3	2-2
		001-143	*	Herbaceous Plants		3	2-2
		001-130 001-140	*OR	Landscape Plants I Landscape Design, Intro to		3	2-2
		801-196		Oral/Interpersonal Communication		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		001-120	*	Landscaping / Interior		3	2-2
		001-141 104-119	OR	Soils and Plant Nutrition Visual Merchandising		3	2-2 1-4
		001-145	*	Floral Design II / Commercial		3	0-6
		104-104		Selling Principles		3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	

Suggested Electives:

001-117 Landscape Design/Advanced (3 Cr)	001-177 Floral Design III (3 Cr)
001-152 Perennials (3 Cr)	001-171 Field Study (3 Cr)
001-176 Horticulture Internship (3 Cr)	001-178 Fruit & Vegetable Science (3 Cr)

Program Total Required 66

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Horticulture-Greenhouse and Floral includes training in floral design, greenhouse operations, flower shop management, garden center operations, and interior landscaping. Courses include hands-on experience with flowers, plants, horticulture equipment, computers, and horticulture business operations. This program may be completed in two years of full-time study.

PROGRAM LEARNING OUTCOMES

Graduates of the Horticulture-Greenhouse & Floral Associate Degree Program should be able to:

1. Be well prepared for their first position in the field.
2. Demonstrate job entry knowledge for employment as a horticulturist.
3. Demonstrate professionalism in essential horticulture practices.
4. Understand the principles of science as applied to horticulture.
5. Identify plant material used in horticulture.
6. Prepare a professional design utilizing basic design principles.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra, and algebra placement testing.

GRADUATION REQUIREMENTS

1. 66 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	**HORTICULTURE**
	Agriculture, Food & Natural Resources	Plant Systems	**(10-001-1B) – Nursery & Landscaping** *Associate of Applied Science Degree* **Offered at: Kenosha Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		001-107	*	Plant Biology for Horticulture		3	2-2
		001-135	*	Plant Propagation		3	2-2
		103-199		PC Basics / Microsoft Office		3	2-2
		001-136	*	Landscape Management		3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 2		001-102	*	Plant Pests & Control		3	2-2
		001-122	*	Horticulture Business Operations		3	2-2
		001-151	*	Greenhouse Crops		3	2-2
		801-198		Speech		3	3-0
		804-123		Math with Business Applications	Prereq: 834-109 (See Note 1)	3	3-0
Semester 3		001-128	*	Horticulture Marketing		3	2-2
		001-130	*	Landscape Plants I		3	2-2
		001-140	*	Landscape Design, Intro		3	2-2
		001-143	*	Herbaceous Plants		3	2-2
		801-196		Oral/Interpersonal Communication		3	3-0
Semester 4		001-132	*	Landscape Plants II		3	2-2
		001-141	*	Soils and Plant Nutrition		3	2-2
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives:			001-179 LandCADD (3 Cr)		
		001-117 Landscape Design/Advanced (3 Cr)			001-177 Floral Design III (3 Cr)		
		001-152 Perennials (3 Cr)			001-171 Field Study (3 Cr)		
		001-176 Horticulture Internship (3 Cr)			001-178 Fruit & Vegetable Science (3 Cr)		
					Program Total Required	***66***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Horticulture-Nursery and Landscaping includes training in outdoor landscaping, grounds maintenance, nursery production, turf management, and greenhouse operation. Courses include hands-on experience in plant identification, insect disease control, bedding plant production, plant propagation, pruning, landscape design, and small engine repair.

PROGRAM LEARNING OUTCOMES

Graduates of the Horticulture-Nursery & Landscaping Associate Degree Program should be able to:

1. Be well prepared for their first position in the field.
2. Demonstrate job entry knowledge for employment as a horticulturist.
3. Demonstrate professionalism in essential horticulture practices.
4. Understand the principles of science as applied to horticulture.
5. Identify plant material used in horticulture.
6. Prepare a professional design utilizing basic design principles.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra, and algebra placement testing.

GRADUATION REQUIREMENTS

1. 66 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Hospitality & Tourism	**Career Pathway ►** Lodging	**HOTEL/HOSPITALITY MANAGEMENT** **(10-109-1)** *Associate of Applied Science Degree* **Offered at: Elkhorn Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		109-101	*	Principles of Hospitality		3	3-0
		109-136	*	Lodging Field Experience	Coreq: 109-101	1	0-0-0-4
		109-171	*	Hospitality Sales and Marketing		3	2-2
		316-170	*	Sanitation and Hygiene		1	1-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 3)	3	3-0
		804-107		College Mathematics	Prereq: 834-109 (See Note 3 & 4)	3	3-0
Semester 2		109-110	*	Housekeeping Management		3	2-2
		109-111	*	Front Office Management		3	2-2
		109-114	*	Manag. Serv. in the Hosp. Industry		3	2-2
		103-199		PC Basics / Microsoft Office		3	2-2
		801-198		Speech		3	3-0
		809-172		Race, Ethnic and Diversity Studies		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 3)	3	3-0
Semester 3		109-145	*	Conference Center Internship	(See Notes 1&2)	2	0-0-6
		101-112		Accounting for Business		3	3-0
		316-100	*	Basic Foods	(See Note 1)	3	1-4
		809-195		Economics	Prereq: 838-105 (See Note 3)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 3)	3	3-0
Semester 4		109-107	*	Legal Aspects of Hosp. Management		3	2-2
		109-137	*	Hospitality Portfolio		1	1-0
		109-144	*	Hospitality Internship	Prereq: 109-110; 109-111; 109-145; 109-171	3	1-0-0-8
		316-126	*	Dining Room Service	(See Note 1)	3	1-4
		316-158	*	Food & Beverage Cost Control		2	2-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 104-101 Marketing Principles (3 Cr) 801-196 Oral/Interpersonal Communication (3 Cr) 802-111 Spanish I (3 Cr)					
					Program Total Required	***67***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Hotel/Hospitality Management prepares students for a career in the hotel/hospitality industry. It emphasizes education, experience, and skill development needed for mid-management/supervisory levels of employment in lodging and food operations. Hotel/hospitality management skills are also applicable to a variety of other hospitality operations. These include sports and entertainment facilities, conference centers, front-of-the house, room division, control of food and beverage operations, and others.

PROGRAM LEARNING OUTCOMES

Graduates of the Hotel/Hospitality Management Associate Degree Program should be able to:

1. Demonstrate the principles of hospitality.
2. Manage the housekeeping and front office functions of a property.
3. Recognize and interpret legal issues relating to the hospitality industry.
4. Develop, appraise, and motivate employee performance.
5. Demonstrate supervisory leadership skills.
6. Demonstrate first aid and sanitation procedures/practices.
7. Provide a hospitality work portfolio to prospective employers.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 67 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.

NOTES

1. A uniform and physical may be required for courses marked with “See Note 1”.
2. Conference Center Internship, in addition to the requirements stated in Note 1, requires student to have current CPR certification, and obtain consent of the instructor.
3. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
4. Formerly 804-106 Intro to College Math.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	HUMAN SERVICE ASSOCIATE (10-520-3)
GATEWAY TECHNICAL COLLEGE	Human Services	Family & Community Services	*Associate of Applied Science Degree* Offered at: Racine Campus

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		103-199		PC Basics / Microsoft Office		3	2-2
		520-101	*	Human Services, Intro to		3	3-0
		520-105	*	Interviewing Principles & Recordkeeping		3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		520-110	*	Community Resources & Services		3	3-0
		520-115	*	Counseling, Introduction to	Prereq: 520-105	3	2-2
		520-140	*	Group Counseling	Coreq: 520-115	3	2-2
		801-120		Technical Writing/Grant and Prop. Writing		2	2-0
		801-196		Oral/Interpersonal Communication		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		520-124	*	Field Experience I / Human Services	Prereq: 520-140	3	1-0-0-8
		520-127	*	Professional Practices in Human Services		3	3-0
		550-130	*	Alcohol/Drug Abuse Rehabilitation		3	2-2
		809-159	*	Psychology, Abnormal	Prereq: 809-198	3	3-0
Semester 4		520-121	*	Field Experience II / Human Services	Prereq: 520-124	3	1-0-0-8
		550-150	*	Psychopharmacology	*Take 550-150* ***OR*** *Human Services Elective*	3	3-0
		809-128 520-151	***OR**	Marriage and the Family Family Theory and Practice		3	3-0
		804-107		College Mathematics	Prereq: 854-760 (See Note 1 & 3)	3	3-0
		809-188		Psychology, Developmental	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	

Suggested Electives:

520-152 Aspects of Disabilities (3 Cr)
520-160 Correctional Processes (3 Cr)
520-150 Gerontology/Intro to (3 Cr)
550-154 Family & Chemical Abuse (3 Cr)
550-156 Mental Health/Sub Abuse (3 Cr)
520-128 Child Welfare Policy and Practice (3 Cr)

Program Total Required 65

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Human Services Associate is designed to prepare people for entry level positions in a variety of human service agencies and social service programs. The Human Services 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 of the Human Services Associate Degree Program should be able to:

1. Demonstrate interviewing and record keeping skills.
2. Demonstrate knowledge of counseling theory.
3. Demonstrate knowledge of community resources for individuals and families.
4. Demonstrate knowledge of family and natural systems.
5. Demonstrate effective group leadership skills.
6. Demonstrate knowledge of the history of human services.
7. Demonstrate ethical and legal behavior.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
3. Formerly 804-106, Intro to College Math.

OTHER INFORMATION

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My counselor is _____. My counselor's contact information is _____.

that's **smart.**

Effective 2010/2011

INDIVIDUALIZED TECHNICAL STUDIES
(10-825-1)
Associate of Applied Science Degree
Offered at: All Campuses

PROGRAM DESCRIPTION

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.

PROGRAM REQUIREMENTS

1. The ITS degree is intended for currently employed individuals who have a spec. career obj. in mind that can't be met by exist. college degree programs.
2. 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.
3. 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

Requirements for Graduation (67 Credit Hours):

40 credits Individualized Technical Studies courses
(20 *must* be focused in one technical discipline)
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

6 credits Electives

25% of the total program credits must be completed at Gateway.

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

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member of a diverse community
7. Think critically and creatively
8. Work cooperatively
9. Value learning

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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Manufacturing	**Career Pathway ►** Maintenance, Installation & Repair	**INDUSTRIAL MECHANICAL TECHNICIAN** **(10-462-1)** *Associate of Applied Science Degree* **Offered at: Racine Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		442-102		Introduction to Welding		2	0-4
		462-101	*	Maintenance Machining		3	0-6
		606-121		Blueprint/Schematic Interpretation		2	2-0
		612-102		Pneumatics/Hydraulics Intro		3	2-2
		628-109	*	Mechanical Skills for Technicians		3	1-4
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
Semester 2		462-103	*	Mechanical Power Transmission	Prereq: 628-109	3	1-4
		605-113	*	DC/AC I		3	2-2
		620-103	*	Intro to Industrial Controls		4	2-4
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
Semester 3		462-104	*	Machine & Equipment Installation	Prereq: 606-121	3	1-4
		620-104	*	Electrohydraulic / Mech Systems	Prereq: 462-103; 620-103	3	2-2
		620-140	*	Programmable Logic Controllers	Prereq: 605-113	2	1-2
		806-154		General Physics 1	Prereq: 804-114	4	3-2
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		462-102	*	Preventative/Predictive Maintenance		3	2-2
		462-105	*	Robotics/Material Handling Systems	Prereq: 620-104	3	2-2
		462-106	*	Capstone Project	Coreq: 462-104; 462-105	5	2-6
		801-196		Oral/Interpersonal Communication		3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
					Program Total Required	***69***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Industrial Mechanical Technicians are required to operate, repair, and maintain machinery and equipment in an industrial environment. You will be introduced to industrial mechanical maintenance utilizing both classroom and lab experiences, including metal fabrication, machining, materials science, hydraulics, lubrication, pipefitting, welding, graphics, and electrical controls. You will also learn concepts of component selection, power transmission application, repair and replacement of failed components, alignment, failure analysis, and preventative and predictive maintenance techniques. Successful graduates will be well prepared for an entry level position in industrial maintenance, entrance into a skilled trade, or the opportunity to enhance a skilled trade with an associate degree.

PROGRAM LEARNING OUTCOMES

Graduates of the Industrial Mechanical Tech Associate Degree Program should be able to:

1. Demonstrate technical proficiency for mechanical repair.
2. Know CMMS software.
3. Use precision measuring equipment.
4. Analyze machine malfunctions and develop an appropriate repair as a member of a team.
5. Demonstrate basic knowledge of machine tool programming.
6. Identify various types of bearings and their application in industrial machinery.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 69 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Safety glasses are required in labs. If prescription safety glasses are needed, please allow a minimum of 90 days. Safety shoes (steel toe leather high top) are also required in most labs.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	IT – COMPUTER SUPPORT SPECIALIST (10-154-3)
	Information Technology	Information Support and Services	*Associate of Applied Science Degree* Offered at: Elkhorn and Kenosha Campuses

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		107-011	*	IT in Business		3	2-2
		107-193	*	IT Essentials	Coreq: 107-011	3	2-2
		150-105	*	Intro to Networking / Web Concepts	Coreq: 107-011	3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-133		Mathematics and Logic	Prereq: 854-769 (See Note 1)	3	3-0
Semester 2		150-111	*	Network Administration – Microsoft	Coreq: 150-105	3	2-2
		152-126	*	Intro to Prog. & Database Concepts	Prereq: 107-193	4	3-2
		154-119	*	System Software Support	Prereq: 107-193	3	2-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		154-112	*	Data Security & Recovery Support	Prereq: 154-119	3	2-2
		154-113	*	IT Apps Server & Support	Prereq: 154-119	3	2-2
		154-114	*	Hardware & Software Support	Prereq: 154-119	3	2-2
		801-196 801-198	*OR*	Oral/Interpersonal Communication Speech		3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		107-177	*	IT Project Management	Prereq: 154-113 OR 152-131	4	3-2
		154-115	*	IT Customer Service Support	Prereq: 154-113	3	2-2
		154-116	*	Emerging Technologies and Apps.	Prereq: 154-112;113;114	2	1-2
		154-118	*	CSS Skills Implementation & Career Prep	Prereq: 154-112;113;114 Coreq: 107-177	3	2-2
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 154-109 IT-Computer Support Specialist Internship (3 Cr) 152-151 Micro Program-Adv (3 Cr) 152-145 Internet Programming (3 Cr)					
					Program Total Required	***67***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

The *IT – Computer Support Specialist* program has been designed to prepare students for a career in Information Technology, providing end-user service and support at all levels, including network connectivity, desktop application, user devices and applications, and data security and recovery. Topics include the architecture, use, installation, and upgrading of hardware and software, including: operating systems, networking, word processing, spreadsheets, databases, communications, and business accounting. Students will also evaluate user hardware and software needs, function as a liaison between their firm and outside contractors or vendors, research emerging technologies, develop buying strategies, and provide user training for both hardware and software.

PROGRAM LEARNING OUTCOMES

Graduates of the IT-Computer Support Specialist Associate Degree Program should be able to:

1. Be technically proficient in trouble shooting hardware problems.
2. Be technically proficient in trouble shooting software problems.
3. Assess computer hardware and software needs.
4. Communicate effectively with IT professionals, end-users, teams, and management.
5. Configure, install, and repair hardware and software.
6. Develop and document IT (Information Technology) environments.
7. Analyze, interpret, and solve business problems.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 67 Credits with an average of 2.0 or above.
2. *Grade of 2.0 (“C”) or above for these major courses.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Information Technology	**Career Pathway ►** Network Systems	**IT-NETWORK SPECIALIST** **(10-150-2)** *Associate of Applied Science Degree* **Offered at: Elkhorn and Racine Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		107-011	*	IT in Business		3	2-2
		107-193	*	IT Essentials	Coreq: 107-011	3	2-2
		150-105	*	Intro to Networking / Web Concepts	Coreq: 107-011	3	2-2
		801-198		Speech		3	3-0
		804-133		Mathematics and Logic	Prereq: 854-769 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		150-111	*	Network Administration – Microsoft	Coreq: 150-105	3	2-2
		150-114	*	Network Concepts – CCNA 1		3	2-2
		152-126	*	Intro to Prog. & Database Concepts	Prereq: 107-193	4	3-2
		150-136	*	Server Technologies	Prereq: 150-105 & 107-193	3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 3		150-123	*	Application Server Administration	Prereq: 150-111	3	2-2
		150-124	*	Routing – CCNA 2	Prereq: 150-114	3	2-2
		150-194	*	Network Security	Prereq: 150-111	3	2-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		150-113	*	Network Administration – Linux/Unix	Prereq: 150-105	4	2-4
		150-135	*	Switching & WANs – CCNA 3 & 4	Prereq: 150-124	4	2-4
		150-106	*	Intrusion Detection Systems	Prereq: 150-194	3	2-2
		107-013	*	IT Job Skills	Prereq: 150-114	1	1-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 150-131 Network Internship (3 Cr) 150-132 Active Directory Admin (3 Cr) 150-133 Message Service Admin (4 Cr)					
					Program Total Required	***70***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the IT-Network Specialist Associate Degree program should be able to:

1. Be technically proficient to configure network communication systems.
2. Be technically proficient to troubleshoot network communication systems.
3. Be technically proficient.
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.
7. Analyze, interpret, and solve business problems.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 70 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with departmental approval).

OTHER INFORMATION

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 the Master Class Schedule 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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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Information Technology	**Career Pathway ►** Programming and Software Development	**IT – PROGRAMMER / ANALYST** **(10-152-1)** *Associate of Applied Science Degree* **Offered at: Kenosha Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		107-011	*	IT in Business		3	2-2
		107-193	*	IT Essentials	Coreq: 107-011	3	2-2
		150-105	*	Intro to Networking / Web Concepts	Coreq: 107-011	3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-133		Mathematics and Logic	Prereq: 854-769 (See Note 1)	3	3-0
		801-196 801-198	*OR*	Oral/Interpersonal Communication Speech	*Take 801-196 OR 801-198*	3	3-0
Semester 2		152-105	*	System i Concepts	Prereq: 107-011	2	1-2
		152-126	*	Intro to Prog. & Database Concepts	Prereq: 107-193	4	3-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		152-122	*	Computer Programming RPG/IV (ILE)	Prereq: 152-105; 152-126	3	2-2
		152-131	*	Systems Design / Development	Coreq: 152-122	3	2-2
		152-141	*	Java Programming – IBM iSeries	Prereq: 152-126; 152-105	3	2-2
		152-151	*	Microcomputer Prog. Advanced	Prereq: 152-126	3	2-2
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		152-125	*	Computer Program, RPG/IV (ILE) Adv.	Prereq: 152-122	3	2-2
		152-133	*	System I Control Language	Prereq: 152-105	2	1-2
		152-145	*	Internet Programming	Prereq: 152-126	3	2-2
		152-158	*	DB/UDB Programming	Prereq: 152-126; 152-105	3	2-2
		107-177	*	IT Project Management	Prereq: 154-113 *OR* 152-131	4	3-2
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 152-124 Computer Programming C++ (3 Cr) 152-149 IBM i Systems Administration (3 Cr)					
					Program Total Required	***69***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

IT-Programmer/Analyst 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 of the IT-Programmer/Analyst Associate Degree Program should 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 believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, pre-algebra, and algebra placement testing.

GRADUATION REQUIREMENTS

1. 69 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with departmental approval).

OTHER INFORMATION

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 the Master Class Schedule 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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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Information Technology	**Career Pathway ►** Web and Digital Communications	**IT – WEB DEVELOPER / ADMINISTRATOR (10-152-3)** *Associate of Applied Science Degree* **Offered at: Available Online**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		107-011	*	IT in Business		3	2-2
		107-193	*	IT Essentials	Coreq: 107-011	3	2-2
		150-105	*	Intro to Networking / Web Concepts	Coreq: 107-011	3	2-2
		152-147	*	IT Web Graphics – Flash	Coreq: 150-105	2	1-2
		150-191	*	Unix Fundamentals	Coreq: 107-193	2	1-2
		804-133		Mathematics and Logic	Prereq: 854-769 (See Note 1 & 2)	3	3-0
Semester 2		152-148	*	Web Programming Concepts	Prereq: 150-105	3	2-2
		152-126	*	Intro to Prog. & Database Concepts	Prereq: 107-193	4	3-2
		152-155	*	Action Scripting – Flash	Prereq: 152-126; 152-147	3	2-2
		152-162	*	Introduction to Perl Programming	Prereq: 150-191 Coreq: 152-148	2	1-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		152-146	*	Advanced Databases	Prereq: 152-126	3	2-2
		150-134	*	Web Servers & Security	Prereq: 150-191; 107-193	3	2-2
		150-163	*	PHP Web Development	Prereq: 150-191; 152-148	2	1-2
		152-156	*	Web Applications – ASP.NET	Prereq: 152-148; 152-126	3	2-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		152-138	*	Introduction to Java	Prereq: 152-126; 152-148	3	2-2
		152-144	*	IT E–Commerce	Prereq: 152-146; Coreq: 150-134	3	2-2
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
		801-198		Speech		3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 152-140 Web Internship (3 Cr) 152-194 Enterprise DBA 1 (3 Cr) 204-107 Digital Photography/Intro (3 Cr)					
					Program Total Required	***69***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

IT-Web Developer/Administrator will train students for the development and maintenance of business and e-Commerce web sites and servers using a variety of tools. Topics will include the ability to make use of HTML and WYSWYG development tools. It also focuses on proper web site design, manipulation of graphics, and scripting technologies. Students will learn coding techniques and the use of interactive databases to enhance the functionality and usability of the web site. The administrative topics will include the installation, configuration, and management of a web server, including security and privacy.

PROGRAM LEARNING OUTCOMES

Graduates of the IT-Web Developer/Administrator Associate Degree Program should be able to:

1. Communicate effectively with CIS, clients, teams, and management.
2. Be technically proficient in the administration and security of a web server.
3. Be technically proficient in the design and development of web sites.
4. Develop pages that contain advanced graphical components.
5. Analyze, interpret, and solve e-commerce and business problems.
6. Incorporate current technologies for web-based data driven sites.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, pre-algebra, and algebra placement testing.

GRADUATION REQUIREMENTS

1. 69 Credits with an average of 2.0 or above.
2. *Grade of 2.0 ("C") or above for these major.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. For those students considering the pursuit of a 4 year degree in this field, 804-197 College Algebra and Trigonometry is a better choice. This course may be taken in place of 804-133 Mathematics and Logic.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with departmental approval).

OTHER INFORMATION

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 the Master Class Schedule 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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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	INSTRUCTIONAL ASSISTANT (10-522-2)
GATEWAY TECHNICAL COLLEGE	Education & Training	Administration and Administrative Support	*Associate of Applied Science Degree* Offered at: Burlington Center & Online

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		522-101	*	IA: Teamwork in School Settings		3	2-2
		522-103	*	IA: Introduction to Educational Practices		3	2-2
		522-106	*	IA: Child and Adolescent Development		3	3-0
		522-111	*	IA: Guiding and Managing Behavior		3	2-2
		804-107		College Mathematics	Prereq: 834-109 (See Note 2 & 4)	3	3-0
Semester 2		522-102	*	IA: Techniques for Reading and Language Arts		3	2-2
		522-129	*	IA: Practicum 1	(See Note 1)	3	1-0-0-6
		522-107	*	IA: Overview of Special Education		3	3-0
		522-118	*	IA: Techniques for Math		3	1-4
		522-120	*	IA: Techniques for Science		3	1-4
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
Semester 3		522-131	*	IA: Practicum 2		3	1-0-0-6
		522-122	*	IA: Advanced Reading/Language Arts	Prereq: 522-102	3	2-2
		522-132	*	IA: Positive Classroom Mgt Tech	Prereq: 522-111	3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 2)	3	3-0
		809-188		Psychology, Developmental	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		522-104	*	IA: Technology & Media Resources		3	2-2
		522-124	*	IA: Supporting Students with Disabilities		3	3-0
		801-196		Oral/Interpersonal Communication		3	3-0
		809-172		Race, Ethnic and Diversity Studies		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives:					
		307-125 Inclusive Classroom/The (2 Cr)			531-102 First Aid/CPR Principles (1 Cr)		
		307-126 Res./Collaboration Children with Spec. Needs (2 Cr)			806-100 Topics in General Science (3 Cr)		
		520-110 Community Resources & Service (3 Cr)					
					Program Total Required	***69***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Instructional Assistant 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, assisting with reading, 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-kindergarten through high school; however, the focus on this program is on preparing graduates to work primarily in elementary and middle school levels.

PROGRAM LEARNING OUTCOMES

Graduates of the Instructional Assistant Associate Degree Program should be able to:

1. Support all learning based on knowledge of subject matter .
2. Identify developmentally appropriate child/adolescent physical, social/emotional, intellectual, and language characteristics and their developmental and environmental impact on learning.
3. Adapt instruction to meet the diverse needs of all learners.
4. Utilize a variety of instructional strategies, media, and technology to foster the development of critical thinking and problem solving.
5. Use proactive classroom management techniques to promote a positive class climate, intrinsic motivation, and optimal learning.
6. Demonstrate effective written and verbal communication in working collaboratively within the school setting and interactions with students and families.
7. Assist in plan. and implement.instructional strategies that reflect the learning cycle.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should 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 a member 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 pre-algebra placement testing.
3. Students must verify, through official transcripts, high school, GED or HSED completion.
4. Students must complete a background information form and pay a criminal background check fee.

GRADUATION REQUIREMENTS

1. 69 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.

NOTES

1. This course requires instructor consent, which will only be given when proper physical and immunization records are submitted.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment See a counselor for details.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
4. Formerly 804-106, Intro to College Math.

PROGRAM LEARNING OUTCOMES (CONTINUED)

8. Utilize informal assessment strategies to collect data for the support of student learning.
9. Incorporate the reflective process to promote student learning and prof.growth.
10. Assume professional responsibility for ethical, moral, and legal policies and procedures.
11. Provide for health and safety needs of students.

OTHER INFORMATION

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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	**INTERIOR DESIGN** **(10-304-1)** *Associate of Applied Science Degree* **Offered at: Kenosha Campus**
	Architecture & Construction	Design / Pre-Construction	

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		304-102	*	Principles of Interior Design		3	2-2
		304-115		Drafting for Interiors		3	1-4
		304-117	*	Color Theory		3	3-0
		304-122	*	Textiles		3	3-0
		804-123		Math with Business Applications	Prereq: 834-109 (See Note 5)	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 5)	3	3-0
Semester 2		304-101	*	Hist. of Furniture and Decorative Arts		3	3-0
		304-103	*	Introduction to AutoCAD	Prereq: 304-115 OR Instructor Consent	3	2-2
		304-133	*	Interior Materials, Finishes & Products		3	3-0
		304-140	*	Rendering Techniques		3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 5)	3	3-0
Semester 3		304-106	*	Interior Lighting/Fund of	Prereq: 304-115; 304-140	3	3-0
		304-116	*	Kitchen/Bathroom Plan	Prereq: 304-103; 140 OR Instructor Consent	3	2-2
		304-123	*	Business of Interior Design	(See Note 1)	3	3-0
		304-127	*	Interior Space Planning & Design	(See Note 2)	3	2-2
		801-198		Speech		3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 5)	3	3-0
Semester 4		104-114	*	Selling Techniques		2	2-0
		304-146	*	Interior Project Design, Advanced	(See Note 3)	3	2-2
		304-147	*	Interior Design Intern/Portfolio Develop	(See Note 4)	2	1-0-0-4
		801-196		Oral/Interpersonal Communication		3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 5)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives:					
		304-104 Advanced Technology for Interior Design (3 Cr.) *(see note 8)*			304-195 Global Int Des Field Study (1 Cr.) *(see note 9)*		
		304-118 Art History (3 Cr.)					
		304-148 Interior Des. Internship II (2 Cr.) *(see note 7)*					
					Program Total Required	***70***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Interior Design prepares students for careers in commercial and residential furniture sales, kitchen and bathroom planning, commercial and residential design, and related specialty fields. The educational emphasis is placed on color theory, design principles, architectural drafting, space planning, knowledge of building codes, furniture selection and layout, rendering, lighting, studio procedures in business, and sales methods. Additional course work is done in the areas of CAD applications, specifications of products, materials, and finishes, history of art, design internship, and general education studies. Full-time students may complete all degree requirements in two years.

PROGRAM LEARNING OUTCOMES

Graduates of the Interior Design Program should be able to:

1. Utilize prin. of design, color, arch. drawing, space plan., bldg. codes, lighting, sel. of furn., materials, and finishes to plan residential and commercial areas.
2. Apply effective interpersonal communications with clients, co-workers, managers, subcontractors, and suppliers within the bldg. and designing fields.
3. Obtain client information, assess existing conditions aesthetic needs, & relate this information to the design process.
4. Plan personal business schedules to meet deadlines.
5. Prepare written contract proposals and specifications for design projects.
6. Prep.& give presentations of the des. prjct. in order to sell prod., conc., & ideas.
7. Apply industry procedures to specifying, and estimating materials for, window treatments, bed coverings, wall coverings, flooring, and upholstery for interiors.
8. Research & develop alternative design solutions to meet price points & aesthetic requirements of clients.
9. Apply computer applications, utilizing CAD and word processing, to residential, commercial and business areas of Interior Design.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. 304-123 has prerequisites of 304-102, 304-115, 304-122 and 304-140.
2. 304-127 has prerequisites of 304-101, 304-102, 304-103, 304-115, 304-117, 304-122, 304-133 & 304-140.
3. 304-146 has prerequisites of 304-101; 102; 103; 106; 115; 116; 117; 122; 123; 127; 133; 140 and corequisites of 304-147; 104-114
4. 304-147 requires students to provide their own transportation. It has a corequisite of 304-146.
5. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
6. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
7. 304-148 requires instructor consent. Student will work 144 hours of paid or unpaid internship at an approved business. Transportation provided by student.
8. 304-104 has prerequisites 304-103 & 304-115 OR Instructor’s Consent.
9. 304-195 may require student travel.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Public Safety, Corrections & Security	**Career Pathway ►** Legal Services	**JUDICIAL REPORTING** (10-106-1) – Shared Program with Lakeshore Technical College *Associate of Applied Science Degree* **+ Gateway Courses Offered at: Kenosha Campus**

Δ Suggested Sequence	√	Course Number		Course Title / Location		Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1 *+Register at GTC θ Register at LTC*		+ 801-136		English Composition 1	*(Taken at GTC)*	Prereq: 831-103 (See Note 1)	3	3-0
		+ 809-198		Psychology, Introduction to	*(Taken at GTC)*	Prereq: 838-105 (See Note 1)	3	3-0
		θ 10106104	§*	Realtime Reporting I	*(Broadcast at GTC)*		5	
		θ 10106144		Realtime Reporting Orientation	*(Taken at LTC)*		1	
		θ 10106159		Legal Terminology	*(Available Online)*		1	
		θ 10106184		English for Realtime Reporters	*(Broadcast at GTC)*		1	
		θ 10106804		Realtime Reporting I Lab	*(Broadcast at GTC)*		1	
Semester 2 *+Register at GTC θ Register at LTC*		+ 801-196 + 801-198	***OR***	Oral/Interpersonal Communication Speech	*(Taken at GTC)*		3	3-0 3-0
		+ 809-196		Sociology, Introduction to	*(Taken at GTC)*	Prereq: 838-105 (See Note 1)	3	3-0
		+ 809-172		Race, Ethnic and Diversity Studies	*(Taken at GTC)*		3	3-0
		θ 10106105	§*	Realtime Reporting II	*(Broadcast at GTC)*		5	
		θ 10106158		Realtime Reporting Technology	*(Broadcast at GTC)*		2	
		θ 10106805		Realtime Reporting II Lab	*(Broadcast at GTC)*		1	
Summer		θ 10106108		Realtime Reporting Speed Development	*(Broadcast at GTC)*		2	
Semester 3 *+Register at GTC θ Register at LTC*		+ 809-195 + 809-144	***OR***	Economics Macroeconomics	*(Taken at GTC)*	Prereq; 838-105 (See Note 1) Prereq; 838-105 (See Note 1)	3	3-0 3-0
		θ 10106109	§*	Literary I	*(Broadcast at GTC)*	Prereq: 106-124	2	1-2
		θ 10106128	§*	Jury Charge I	*(Broadcast at GTC)*	Prereq: 106-124	2	1-2
		θ 10106809		Literary I Lab	*(Taken at GTC)*		1	
		θ 10106828		Jury Charge I Lab	*(Taken at GTC)*		1	
		θ 10106859		Testimony I Lab	*(Taken at GTC)*		1	
		θ 10106143		Judicial Reporting Internship	*(Off Campus)*		1	
		θ 10106156		Testimony I	*(Broadcast at GTC)*		3	
		+ 804-123 + 804-107	***OR***	Math with Business Applications College Mathematics	*(Taken at Gateway)*	Prereq: 834-109(See Note 1) Prereq: 834-109 (See Note 1)	3	3-0 3-0
Semester 4 *+Register at GTC θ Register at LTC*		θ 10106111		Literary II	*(Broadcast at GTC)*		2	
		θ 10106129		Jury Charge II	*(Broadcast at GTC)*		2	
		θ 10106142		Judicial Reporting Procedures	*(Broadcast at GTC)*		2	
		θ 10106157	§*	Testimony II	*(Broadcast at GTC)*		3	
		θ 10106171		Medical Reporting & Terminology	*(Broadcast at GTC)*		2	
		θ 10106811	§*	Literary II Lab	*(Taken at GTC)*		1	0-2
		θ 10106829	§*	Jury Charge II Lab	*(Taken at GTC)*		1	
		θ 10106857		Testimony II Lab	*(Taken at GTC)*		1	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

Program Total Required ***65***

PROGRAM DESCRIPTION

Judicial Reporting trains students to become high skilled people capable of recording the spoken word using machine shorthand and transcribing the proceedings, most often with the assistance of computer-aided transcription. Students gain experience by learning computer compatible machine shorthand theory, specialized formats for court proceedings, how to operate computer-aided transcription systems, and actual courtroom and deposition practice. Preparation for passing the National Court Reporters exam is given. This program may be completed in two years of full-time study.

The Judicial Reporting program is approved by the National Court Reporters Association, 8224 Old Courthouse Road, Vienna, VA 22182, phone (703) 566-6272.

PROGRAM LEARNING OUTCOMES

Graduates of the Judicial Reporting Associate Degree Program should be able to:

1. Develop proficiency in machine shorthand using realtime theory.
2. Develop a personal dictionary, read, translate, and edit transcripts using CAT (computer-assisted transcription) software.
3. Produce salable transcripts on a realtime translation system.
4. Demonstrate knowledge of proper reporting procedures and responsibilities for freelance and official reporting.
5. Demonstrate knowledge of legal and medical concepts and terminology.
6. Demonstrate knowledge of the professional reporting organizations and methods of gaining certification as a Registered Professional Reporter.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

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

ADMISSION REQUIREMENTS

Consult the LTC website for Admission Requirements at www.goltc.edu

GRADUATION REQUIREMENTS

Consult the LTC website for Graduation Requirements at www.goltc.edu

Wisconsin requires official reporters to pass the RPR to obtain an officialship. Some states require both official and freelance reporters to pass their state CSR tests. Other states have other requirements.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. There is a lease/purchase program for steno machines and laptop computers.
3. Students completing this shared program will receive their degree from Lakeshore Technical College.
4. Major Courses (*) in this program are taught via the Wisconsin Tech. College Network and may be taken at Gateway Technical College, Kenosha campus.
5. Any course may be taken prior to entry in the program, assuming all prerequisites and corequisites have been met (or waived with departmental approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	**LAND SURVEY TECHNICIAN** (10-607-7) *Associate of Applied Science Degree* **Offered at: CATI & Elkhorn Campus**
	Architecture & Construction	Design & Pre-Construction	

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		607-103	*	Introduction to Civil Engineering & Architecture		2	1-2
		607-106	*	Building Materials	Coreq: 607-107	2	1-2
		607-107	*	Construction Methods	Coreq: 607-106	2	1-2
		607-169	*	Surveying Basics		2	1-2
		607-170	*	AutoCAD for Construction Sciences		2	1-2
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		607-102	*	Conflict Resolution in CET		2	1-2
		607-124	*	AutoCAD Applications for Civil	Prereq: 607-170	4	2-4
		607-128	*	Construction Estimating	Prereq: 607-106; 607-107	3	2-2
		607-132	*	Structural Mechanics	Prereq: 804-114	3	2-2
		607-136	*	Construction Project Management		2	1-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 3		607-117	*	Geographical Information Systems I		2	1-2
		607-127	*	Civil Engineering Drafting		3	1-4
		607-173	*	Surveying Fundamentals	Prereq: 607-169	3	1-4
		607-174	*	Land Surveying – Data Processing	Coreq: 607-173	2	1-2
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		806-154		General Physics 1	Prereq: 804-114	4	3-2
Semester 4		607-108	*	Research and Boundary Location	Prereq: 607-173	3	1-4
		607-150	*	Survey Construction/ Route/ Highway	Prereq; 607-173	4	2-4
		607-161	*	Legal Aspects of Land Surveying	Coreq: 607-108	2	2-0
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	

Suggested Electives:

607-154 Sewer and Water (2 Cr)
607-137 GPS Systems (2 Cr)
607-152 Elements of Inspections (3 Cr)
607-119 Civil Technology/Internship (1 Cr)

Registered Land Surveyor

This program meets the educational requirements to become a Licensed Land Surveyor in the State of Wisconsin as long as 4 of the 6 elective credits are additional math-related credits approved by the surveying instructor of the CET program.

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

Program Total Required ***70***

PROGRAM DESCRIPTION

The Land Survey Technician program 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 second year focuses on aspects specific to Land Surveying. 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 land surveying.

PROGRAM LEARNING OUTCOMES

Graduates of the Land Survey Technician Program should be able to:

1. Exhibit skills in multiple CAD environments, specifically AutoCAD and Revit
2. Measure field locations
3. Develop 3D computer models, maps, and drawings based field measurements.
4. Apply building codes to existing conditions and proposed designs.
5. Develop structural details for purposed conditions.
6. Differentiate between the various areas and functions within the profession.
7. Understand quantities, materials, equipment and methods used in the profession.
8. Exhibit proper and clear documentation and reporting skills
9. Exhibit individual ability to properly solve a problem
10. Work cooperatively in groups

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential computer skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, pre-algebra and algebra placement testing.

www.gtc.edu/engtech

GRADUATION REQUIREMENTS

1. 70 Credits with an average of 2.0 or above.
2. *A 2.0 (“C”) or above for these specific major core courses.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to enrollment in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
3. 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.
4. Classes offered at Elkhorn Campus via NODAL delivery. See www.gtc.edu/civileng for details.
5. Blackhawk Technical College students may take the majority of the core classes in this shared program via NODAL delivery at BTC’s Janesville campus.
6. The programs in the Construction Science Group include: Civil Engineering Tech: Highway Technology, Land Survey Technician, Architectural-Structural Engineering Technician, and Civil Engineering Technology: Fresh Water Resources.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** 	**Career Pathway ►** Marketing Communications	**MARKETING** **(10-104-3A) – General Marketing** *Associate of Applied Science Degree* **Offered at: Kenosha and Racine Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		104-101	*	Marketing Principles		3	3-0
		104-103	*	Marketing Careers		1	1-0
		104-104	*	Selling Principles		3	3-0
		103-199		PC Basics / Microsoft Office		3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		801-196		Oral/Interpersonal Communication		3	3-0
Semester 2		103-111		Microsoft PowerPoint II	Prereq: 103-199	1	.5-1
		104-161	*	Selling Principles, Advanced	Prereq: 104-104	3	3-0
		804-123		Math with Business Applications	Prereq: 834-109 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		103-103		Microsoft Excel II		1	1-2
Semester 3		104-105	*	Promotion Principles		3	3-0
		104-150	*	Marketing Professional Development		1	1-0
		104-173	*	Marketing Research	Coreq: 104-101	3	2-2
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Semester 4		101-112		Accounting for Business		3	3-0
		104-172	*	Marketing Management	Prereq: 104-101	3	3-0
		104-198	*	E-Commerce Marketing	Prereq: 104-101	3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
		*Take **9** credits from the list below.* **+**				9	
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	

+ Take 9 credits from this list:
104-171 *Credit Procedures (3 Cr)
104-119 *Visual Merchandising (3 Cr)
104-194 *International Marketing (3 Cr)
104-127 *Retailing **OR** 104-169 *Mngmt/Merch. (3 Cr)
Students cannot use both Retailing (104-127) and Mngmt / Merch (104-169) to complete this requirement.

Suggested Electives:
102-137 Business/Introduction to (3 Cr)
102-160 Business Law (3 Cr)
104-109 Marketing/Sports & Event (3 Cr)
104-134 Marketing Internship (3 Cr)

Program Total Required ***67***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Marketing, which can be completed in two years of study if taken full-time, concentrates on a general method of marketing and sales. Course work includes such items as introduction to microcomputers, business overview, credit procedures, business communication, promotion methods, business law, supervisory techniques, retailing, general sales, and psychology.

PROGRAM LEARNING OUTCOMES

Graduates of the Marketing-General Associate Degree Program should be able to:

1. Demonstrate proper written and oral communication.
2. Demonstrate hands-on ability in the use of business software and hardware.
3. Differentiate the careers in the marketing field.
4. Work together in groups.
5. Be creative.
6. Develop a resume and interview for a job.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 67 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** 	**Career Pathway ►** Marketing Communications	**MARKETING** **(10-104-3B) – Business to Business** *Associate of Applied Science Degree* **Offered at: Kenosha Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		104-101	*	Marketing Principles		3	3-0
		104-103	*	Marketing Careers		1	1-0
		104-104	*	Selling Principles		3	3-0
		103-199		PC Basics / Microsoft Office		3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 2)	3	3-0
		801-196		Oral/Interpersonal Communication		3	3-0
Semester 2		103-111		Microsoft PowerPoint II	Prereq: 103-199	1	.5-1
		104-161	*	Selling Principles, Advanced	Prereq: 104-104	3	3-0
		104-170	*	Business Purchasing		3	3-0
		804-123		Math with Business Applications	Prereq: 834-109 (See Note 2)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
		103-103		Microsoft Excel II		1	.5-1
Semester 3		104-126	*	Business Marketing I	Prereq: 104-101	3	3-0
		104-150	*	Marketing Professional Development		1	1-0
		104-173	*	Marketing Research	Coreq: 104-101	3	2-2
		104-194	*	International Marketing		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Semester 4		101-112		Accounting for Business		3	3-0
		104-172	*	Marketing Management	Prereq: 104-101	3	3-0
		104-198	*	E-Commerce Marketing	Prereq: 104-101	3	3-0
		104-105	*	Promotion Principles		3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 2)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	

Suggested Electives:

102-137 Business/Introduction to (3 Cr)
102-160 Business Law (3 Cr)
104-109 Marketing/Sports & Event (3 Cr)
104-134 Marketing Internship (3 Cr)
104-171 Credit Procedures (3 Cr)

Program Total Required 67

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Marketing, which can be completed in two years of study if taken full-time, concentrates on a general method of marketing and sales. Course work includes such items as introduction to microcomputers, business overview, credit procedures, business communication, promotion methods, business law, supervisory techniques, retailing, general sales, and psychology.

PROGRAM LEARNING OUTCOMES

Graduates of the Marketing-General Associate Degree Program should be able to:

1. Demonstrate proper written and oral communication.
2. Demonstrate hands-on ability in the use of business software and hardware.
3. Differentiate the careers in the marketing field.
4. Work together in groups.
5. Be creative.
6. Develop a resume and interview for a job.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 67 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Science, Technology, Engineering & Mathematics	**Career Pathway ►** Engineering and Technology	**MECHANICAL DESIGN TECHNOLOGY** (10-606-1A) – Mechanical Engineering Tech *Associate of Applied Science Degree* **Offered at: Elkhorn and Racine Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		606-126	*	Introduction – AutoCAD		2	0-4
		606-149	*	Introduction to MET	Coreq: 606-126	2	0-4
		606-152	*	Engineering Graphics w/ CAD1	Coreq: 606-126; 606-149	2	0-4
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 2		606-127	*	CAD Intermediate	Prereq: 606-126	2	1-2
		606-128	*	CAD – Solidworks		2	1-2
		606-136	*	Manufacturing Materials		1	1-0
		606-151	*	Statics	Prereq: 804-114	3	2-2
		606-153	*	Engineering Graphics w/ CAD 2	Prereq: 606-152	2	0-4
		606-160	*	Fluid Power and Design		3	2-2
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3		606-118	*	Mechanisms	Prereq: 606-151; 606-152	2	1-2
		606-122	*	Geometric Dimensioning & Tolerancing		2	2-0
		606-129	*	CAD Solids / Advanced	Prereq: 606-128	2	1-2
		606-131	*	Strength of Materials	Prereq: 606-151	3	2-2
		606-159	*	Manufacturing Processes		2	2-0
		806-154		General Physics 1	Prereq: 804-114	4	3-2
Semester 4		606-116	*	Machine Design / Elements of	Prereq: 606-131	3	3-0
		606-119	*	Motor Controls		3	2-2
		606-137	*	Manufacturing Process Applications		2	0-4
		606-138	*	Design Problems	Prereq: Instructor Consent	2	0-4
		606-154	*	Engineering Graphics w/ CAD 3	Prereq: 606-153	2	0-4
		801-198		Speech		3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	

Suggested Electives:

606-107 Drafting Seminar (2 Cr)
606-130 Introduction – SolidEdge (2 Cr)
606-139 Introduction – AutoCAD Inventor (2 Cr)
606-186 Directed Study/Mech. Design (1 Cr)
606-199 Internship, Mechanical Technician(1 Cr)

Program Total Required ***69***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Mechanical Design Technician Associate Degree Program should be able to:

1. Work as a member of a design team.
2. Demonstrate basic job entry computer skills.
3. Analyze applications of forces as applied in the design process.
4. Create working drawings using a combination of sketches, 2D drafting, and solids modeling.
5. Create and complete a design project.
6. Apply various math concepts.
7. Apply current drafting standards.
8. Understand how materials and manufacturing relate to design.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 69 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days.
3. A drafting kit is required for this program; the cost is approximately $20.
4. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Science, Technology, Engineering & Mathematics	**Career Pathway ►** Engineering and Technology	**MECHANICAL DESIGN TECHNOLOGY** **(10-606-1B) – Mechatronics** *Associate of Applied Science Degree* **Offered at: Elkhorn and Racine Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		605-113	*	DC/AC I		3	2-2
		606-126	*	Introduction – AutoCAD		2	0-4
		606-149	*	Introduction to MET	Coreq: 606-126	2	0-4
		606-152	*	Engineering Graphics w/ CAD 1	Coreq: 606-126; 606-149	2	0-4
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-113		College Technical Math 1A	Prereq: 854-769 (See Note 1)	3	3-0
		804-114		College Technical Math 1B	Coreq: 804-113	2	2-0
Semester 2		605-114	*	DC/AC II	Prereq: 605-113	3	2-2
		606-127	*	CAD Intermediate	Prereq: 606-126	2	1-2
		606-128	*	CAD Solidworks		2	1-2
		606-136	*	Manufacturing Materials		1	1-0
		606-151	*	Statics	Prereq: 804-114	3	2-2
		606-153	*	Engineering Graphics w/ CAD 2	Prereq: 606-152	2	0-4
		606-160	*	Fluid Power and Design		3	2-2
Semester 3		605-120	*	Electronic Devices I	Prereq: 605-113	4	2-4
		605-130	*	Digital Electronics	Coreq: 605-113	4	3-2
		606-118	*	Mechanisms	Prereq: 606-151; 606-152	2	1-2
		606-129	*	CAD Solids / Advanced	Prereq: 606-128	2	1-2
		606-159	*	Manufacturing Processes		2	2-0
		806-154		General Physics 1	Prereq: 804-114	4	3-2
Semester 4		606-137	*	Manufacturing Process Applications		2	0-4
		606-138	*	Design Problems	Prereq: Instructor Consent	2	0-4
		801-198		Speech		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	

Suggested Electives:

606-107 Drafting Seminar (2 Cr)
606-130 Introduction – SolidEdge (2 Cr)
606-139 Intro – AutoCAD Inventor (2 Cr)
606-186 Directed Study/Mechanical Design (1 Cr)
606-199 Internship, Mechanical Technician (1 Cr)

Program Total Required ***70***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Mechanical Design Technology Associate Degree Program should be able to:

1. Work as a member of a design team.
2. Demonstrate basic job entry computer skills.
3. Analyze applications of forces as applied in the design process.
4. Create working drawings using a combination of sketches, 2D drafting, and solids modeling.
5. Create and complete a design project.
6. Apply various math concepts.
7. Apply current drafting standards.
8. Understand how materials and manufacturing relate to design.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, pre-algebra and algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days.
3. A drafting kit is required for this program; the cost is approximately $20.
4. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Health Science	**Career Pathway ►** Therapeutic Services	**NURSING** **(10-543-1)** *Associate of Applied Science Degree* **Offered at: Kenosha Campus & Burlington Center**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		543-101	§*	Nursing Fundamentals	Prereq: 806-177 (See Note 1)	2	2-0
		543-102	§*	Nursing Skills	(See Note 1)	3	0-6
		543-103	§*	Nursing Pharmacology	(See Note 1)	2	2-0
		543-104	§*	Nsg: Intro Clinical Practice	(See Note 1)	2	0-0-6
		801-136	§	English Composition 1	Prereq: 831-103 (See Note 5)	3	3-0
		806-177	§*	General Anatomy and Physiology	Prereq: 806-134 (See Note 12)	4	2-4
		809-188	§	Psychology, Developmental	Prereq: 838-105 (See Note 5)	3	3-0
Semester 2		543-105	§*	Nursing Health Alterations	(See Note 2)	3	2-2
		543-106	§*	Nursing Health Promotion	Prereq: 809-188 (See Note 2)	3	3-0
		543-107	§*	Nsg: Clin Care Across Lifespan	Coreq: 543-106	2	0-0-6
		543-108	§*	Nsg: Intro Clinical Care Mgt.	Coreq: 543-105	2	0-0-6
		801-196	§	Oral/Interpersonal Communication		3	3-0
		806-179	*	Anatomy & Physiology, Advanced	Prereq: 806-177 (See Note 12)	4	2-4
Semester 3		543-109	*	Nursing Complx Health Alter I	Coreq: 806-197 (See Note 3)	3	2-2
		543-110	*	Nursing Mental Health Comm	Coreq: 809-198 (See Note 3)	2	2-0
		543-111	*	Nursing Intrmdt Clinical	Coreq: 543-109; 543-110; 543-112	3	0-0-9
		543-112	*	Nursing Advanced Skills	(See Note 3)	1	0-2
		806-197	*	Microbiology	Prereq: 806-177 (See Note 12)	4	3-2
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 5)	3	3-0
Semester 4		543-113	*	Nursing Cmplx Health Alter II	(See Note 4)	3	3-0
		543-114	*	Nursing Management Concepts	(See Note 4)	2	2-0
		543-115	*	Nursing Advanced Clinical	Coreq: 543-113	3	0-0-9
		543-116	*	Nursing Clinical Trans.	Prereq: 543-113; 543-114; 543-115	2	0-0-6
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 5)	3	3-0
Electives		***Take 5 elective credits. Any associate degree level course may be taken as an elective.***				***5***	
		Suggested Electives: 510-154 Pathophysiology for Health Professions (3 Cr) 501-101 Medical Terminology (3 Cr) 510-151 Nsg: Endocrine & Electrolytes (1 Cr) 510-152 Nsg: Pediatrics (1 Cr) 510-153 Nsg: Pharmacology Applications (1 Cr)					
					Program Total Required	***70***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Nursing-Associate Degree prepares students to meet all of the requirements for licensure as a registered nurse in Wisconsin. Students who complete the courses required as a practical nurse in Wisconsin, may receive a technical diploma in Practical Nursing. There is an emphasis on the basic knowledge and skills necessary to pass the standardized examination and to meet the workplace expectations of various health care situations in which these practitioners may be employed. The program may be completed in two academic years of full-time study and may be started in either August or January. Individuals who are Licensed Practical Nurses should contact Gateway for information regarding advanced standing opportunities. Gateway credits may transfer to colleges and universities offering adv. nurse ed. programs.

PROGRAM LEARNING OUTCOMES

Graduates of the Nursing Associate Degree Program should be able to:

1. Adhere to prof. standards of pract. within leg. ethical, & reg. frameworks of the RN.
2. Make clinical decisions to assure safe & accurate nursing care.
3. Provide safe, caring interventions with diverse populations across the lifespan.
4. Use effective communication skills incorporating lifespan considerations.
5. Assess indiv., fam., & grp. health across the lifesp. within the contxt of the comm.
6. Use teaching & learning processes to promote & restore health incorporating lifespan considerations.
7. Collaborate with others to respond to the needs of individuals, families, & groups across the health-illness continuum.
8. Manage care to facilitate continuity within & across health care settings.

The Nursing program is fully accredited by the NLNAC, 3343 Peachtree Rd NE Suite 500, Atlanta, GA 30326; Contact Dr. Sharon Tanner for more information at: (212) 812-0364.

Eligibility for Licensure Exam: Student must be a grad of a state-app. school, be a U.S. citizen, or submit proof of intention to become a citizen or a perm. resident alien.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must verify, through off. transcripts, high school, GED or HSED completion.
4. Students must complete a WI residency form.
5. Students must complete a BID form and pay a CBC fee.
6. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

GRADUATION REQUIREMENTS

1. 70 Credits with an average of 2.0 or above.
2. * Minimum Grade of 2.0 (“C”) or above for these major courses.
3. § Must be completed to be eligible to take the NCLEX-PN exam.

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

NOTES

1. Students must meet petition requirements prior to enrolling in 543 courses.
2. These courses include prerequisites of 543-101; 102; 103; 104, and 806-177 or 179.
3. These courses include prerequisites of 543-105, 543-106, 543-107, 543-108.
4. These courses include prerequisites of 543-109, 543-110, 543-111, 543-112, 806-197 & 806-179.
5. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
6. CPR certification must be obtained & maintained.
7. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
8. Eye protection is required in the chemistry lab and in selected clinical situation.
9. A liability insurance of approximately $13.50 per semester is required.
10. Students will be selected for their initial core 543 courses using a petitioning proc.
11. A physical examination and immunization are required prior to admission to the first clinical course. Clinical sites may require proof of health insurance.
12. The prerequisite for this course must have been completed with a minimum grade of a „C“ or better.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor"s contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	PARAMEDIC TECHNICIAN (10-531-1)
	Public Safety, Corrections & Security	Emergency and Fire Management Services	*Associate of Applied Science Degree* Offered at: Burlington Campus

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		531-151	*	Paramedic Fundamentals	Prereq: Instructor Consent	5	4-2
		531-152	*	Paramedic Pharmacology	Prereq: 531-151	4	3-1
		531-155	*	Respiratory Management	Prereq: 531-152	2	1-2
		531-156	*	Cardiology 1	Prereq: 531-155	3	2-2
		531-157	*	Clinical 1	Prereq: 531-155	4	0-0-0-16
Semester 2		531-158	*	Cardiology 2	Prereq: 531-156	3	2-2
		531-159	*	Medical Emergencies	Prereq: 531-158	3	2-2
		531-164	*	Trauma Emergencies	Prereq: 531-159	3	2-2
		531-165	*	Emergency Care for Specialists	Prereq: 531-164	3	2-2
		531-166	*	EMS Operations	Prereq: 531-165	3	1-3
		531-167	*	Clinical 2	Prereq: 531-158	3	0-0-0-12
Semester 3		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		801-196		Oral/Interpersonal Communication		3	3-0
		806-177		General Anatomy and Physiology	Prereq: 806-134 (See Note 5)	4	2-4
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 4		806-179		Anatomy & Physiology, Advanced	Prereq: 806-177 (See Note 5)	4	2-4
		809-188		Psychology, Developmental	Prereq: 838-105 (See Note 1)	3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		806-197		Microbiology	Prereq: 806-177 (See Note 5)	4	3-2
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 501-101 Medical Terminology (3 Cr)					
					Program Total Required	***69***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Paramedic Technician requires students to be licensed in Wisconsin at the EMT Basic, EMT Intermediate Technician, or EMT Intermediate level and be current in Healthcare Provider CPR. 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 will permit the student to take the written and practical National Registry certification exam. The technical portion includes approximately 650 hours of classroom lecture and skills lab, 288 hours spent in hospital clinical situations, and 216 hours of supervised field time with a paramedic level ambulance. 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 EMT-Paramedic technical diploma.

PROGRAM LEARNING OUTCOMES

Graduates of the Paramedic Technician Program should be able to:

1. Perfm. an adv. assessment and render approp. treatment for a trauma patient.
2. Perfm. an adv. assessment and render approp. treatment for a medical patient.
3. Provide advanced cardiac life support.
4. Administer oral, IV sub Q, intramuscular, and endotracheal medications.
5. Perform an endotracheal intubation on a patient.
6. Understand organ systems and pathophysiology pertaining to those systems.
7. Interpret/treat a variety of cardiac rhythms.
8. Perform therapeutic communications in both written and verbal formats.
9. Interact with patients in a compassionate and professional manner.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must complete a BID and pay a CBC fee.
4. Students must have current CPR certification.
5. Students must have passed EMT – Basic and have a current Wisconsin EMT license.

GRADUATION REQUIREMENTS

1. 69 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior enrollment. See a counselor for details.
2. Students finishing all first and second semester courses are eligible for the EMT-Paramedic Technical Diploma. See a counselor for details.
3. Prior to enrolling in 531 courses, a student must satisfactorily complete a specific EMS pre-admission test involving both written and practical testing at the EMT-Basic level and complete an informal interview with an EMT-Par. Inst.
4. Any non-531 course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with departmental approval).
5. The prerequisite for this course must have been completed with a minimum grade of a „C“ or better.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor"s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Health Science	**Career Pathway ►** Therapeutic Services	**PHYSICAL THERAPIST ASSISTANT** **(10-524-1)** *Associate of Applied Science Degree* **Offered at: Kenosha Campus**

Δ*Suggested Sequence*	√	*Course Number*		*Course Title*	*Requisites*	*Credits*	*Hrs/Wk Lec - Lab*
Summer		806-177	*	General Anatomy & Physiology	Prereq: 806-134 (See Note 6)	4	2-4
Semester 1		524-138	*	PTA Kinesiology 1	Prereq: Instructor Consent	3	1.5-3
		524-139	*	PTA Patient Interventions	Prereq: Instructor Consent	4	2-4
		524-140	*	PTA Professional Issues 1	Prereq: Instructor Consent	2	2-0
		524-143	*	PTA Therapeutic Modalities	Coreq: 524-139	4	2-4
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
Semester 2		524-141	*	PTA Kinesiology 2	Prereq: 524-138	4	2-4
		524-147	*	PTA Clinical Practice 1	Coreq: 524-141; 524-143	2	0-1-0-6
		524-142	*	PTA Therapeutic Exerc.	Prereq: 806-177 Coreq: 524-138	3	1.5-3
		524-145	*	PTA Principles of Musculoskeletal Rehab.	Prereq: 524-139 Coreq: 524-141 & 524-142	4	2-4
		804-113	*	College Technical Math 1A	Prereq: 854-769 (See Note 2)	3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 2)	3	3-0
Semester 3		524-144	*	PTA Princ of Neuro Rehab.	(See Note 1)	4	2-4
		524-146	*	PTA Cardio & Integ Mgmt	(See Note 1)	3	1.5-3
		524-148	*	PTA Clinical Practice 2	Prereq: 524-147	3	.5-0-0-10
		809-188		Psychology, Developmental	Prereq: 838-105 (See Note 2)	3	3-0
Semester 4		524-149	*	PTA Rehabilitation Across the Lifespan	Prereq: 524-144; 524-145; 524-148 Coreq: 524-146	2	1-2
		524-150	*	PTA Prof Issues 2	Prereq: 524-140 Coreq: 524-148	2	2-0
		524-151	*	PTA Clinical Practice 3	Prereq: 524-144; 524-145; 524-146; 524-148	5	.5-0-0-18
		801-196		Oral/Interpersonal Communication		3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
Electives		***Take 3 elective credits. Any associate degree level course may be taken as an elective.***				***3***	
		Suggested Electives: 501-101 Medical Terminology (3 Cr.) 524-108 PTA Musculoskeletal Anatomy & Function (2 Cr)					
					Program Total Required	***70***	

Δ*Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Physical Therapist Assistant is a two year associate degree program which teaches students the scientific principles and skills needed to prevent, identify, assess, correct, and/or alleviate movement dysfunction. The program provides students with a variety of academic, laboratory, and clinical experiences in which to learn and practice physical therapy interventions. Graduates of this program work under the supervision of a physical therapist in a variety of settings, including hospitals, outpatient clinics, schools, nursing homes, and specialty clinics.

PROGRAM LEARNING OUTCOMES

Graduates of the Physical Therapist Assistant Program should be able to:

1. Demonstrate effective comm. with patients, families, and health care team.
2. Exhibit behaviors and conduct that reflect respect and sensitivity according to PT practice standards.
3. Func. under the super. of a physical therapist in a safe, legal, ethical manner.
4. Produce documentation to support the delivery of PT services.
5. Demonstrate critical thinking skills to implement and adjust a plan of care under the direction and supervision of a physical therapist.
6. Perform technically competent data collection under the direction and supervision of the physical therapist.
7. Perform technically competent PT interventions under the direction and supervision of the physical therapist.
8. Educate patients, families, and other health providers.
9. Integrate components of administrative, operational, and fiscal practices of PT service in a variety of settings.
10. Implement a self-dir. plan for career dev., credentialing, and lifelong learning.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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, pre-algebra & algebra placement testing.
3. Students must verify, through official transcripts, high school, GED or HSED completion.
4. Students must complete a BID form and pay a CBC fee.
5. Students must complete a Wisconsin residency form.
6. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

GRADUATION REQUIREMENTS

1. 70 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.

NOTES

1. Courses 524-144 and 524-146 all have prerequisites of 524-141, 524-139 and 524-142.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
3. Students must meet petition requirements before enrolling in 524 courses.
4. Any general studies course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
5. CPR certification must be obtained and maintained.
6. The prerequisite for this course must have been completed with a minimum grade of a „C" or better.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor"s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Health Science	**Career Pathway ►** Diagnostics Services	**RADIOGRAPHY** **(10-526-1)** *Associate of Applied Science Degree* **Offered at: Burlington Center**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Summer		804-107		College Mathematics	Prereq: 834-109 (See Note 2)	3	3-0
Semester 1		526-149	*§	Radiographic Procedures 1	Prereq: 806-177 Coreq: 526-158; 526-159; 526-168	5	3-4
		526-158	*§	Introduction to Radiography	Prereq: 806-177 Coreq: 526-149; 526-159; 526-168	3	2-2
		526-159	*§	Radiographic Imaging 1	Prereq: 806-177 Coreq: 526-149; 526-158; 526-168	3	3-0
		526-168	*§	Radiography Clinical 1	Prereq: 806-177 Coreq: 526-149; 526-158; 526-159	2	0-0-0-8
		806-177	*	General Anatomy and Physiology	Prereq: 806-134 (See Note 8)	4	2-4
Semester 2		526-170	*	Radiographic Imaging 2	Prereq: 526-149; 158; 159; 168 Coreq: 526-191; 192	3	3-0
		526-191	*	Radiographic Procedures 2	Prereq: 526-149; 158; 159; 168 Coreq: 526-170; 192	5	3-4
		526-192	*	Radiography Clinical 2	Prereq: 526-149; 158; 159; 168 Coreq: 526-170; 191	3	0-0-0-8-12
		801-136		English Composition 1	Prereq: 831-103 (See Note 2)	3	3-0
		801-196		Oral/Interpersonal Communication		3	3-0
Summer		526-193	*	Radiography Clinical 3	Prereq: 526-170; 526-191; 526-192	3	0-0-0-8-12
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
Semester 3		526-196	*	Modalities	Prereq: 526-193 & Inst. Consent Coreq: 526-194; 199	3	3-0
		526-194	*	Imaging Equipment Operation	Prereq: 526-193 Coreq: 526-196; 526-199	3	3-0
		526-199	*	Radiography Clinical 4	Prereq: 526-193 Coreq: 526-194; 526-196	3	0-0-0-8-12
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
Semester 4		526-189	*	Radiographic Pathology	Prereq: 526-199 & Instructor Consent Coreq: 526-174; 526-190; 526-195; 526-197	1	1-0
		526-197	*	Radiation Protection and Biology	Prereq: 526-199 & Instructor Consent Coreq: 526-174; 189; 190; 195	3	3-0
		526-195	*	Radiographic Quality Analysis	Prereq: 526-199 & Instructor Consent Coreq: 526-174; 189; 190; 197	2	1-2
		526-190	*	Radiography Clinical 5	Prereq: 526-199 Coreq: 526-174; 189; 195; 197	2	0-0-0-4-12
		526-174	*	ARRT Certification Seminar	Prereq: 526-199 Coreq: 526-189; 190; 195	2	2-0
		809-166		Ethics: Theory & Apps., Intro to		3	3-0
Summer		526-198	*	Radiography Clinical 6	Prereq: 526-190	2	0-0-0-4-12
					Program Total Required	***70***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Radiography prepares individuals for a career in diagnostic radiology (x-ray) as a radiographer. The radiographer is a technologist who produces images of the human body to aid physicians in the diagnosis of injuries and diseases. Graduates of the program are eligible to take the entry-level certification examination administered by the American Registry of Radiography Technologists (ARRT) and may obtain employment in x-ray departments associated with hospitals, medical clinics, veterinary clinics, and private offices.

GRADUATION REQUIREMENTS

1. 70 Credits with an average of 2.0 or above.
2. *A minimum grade of 2.0 ("C") or above for these major courses. Students must maintain individual course grades of "C" or better to remain in the program.

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

PROGRAM LEARNING OUTCOMES

Graduates of the Radiography Associate Degree Program should be able to:

1. Carryout the production and evaluation of radiographic images
2. Apply computer skills in the radiographic clinical setting
3. Practice radiation safety principles
4. Provide quality patient care
5. Model professional and ethical behavior consistent with the A.R.R.T. Code of Ethics.
6. Apply critical thinking and problem solving skills in the practice of diagnostic radiography.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must verify, through official transcripts, high school, GED or HSED completion.
4. Students must complete a Wisconsin residency form.
5. Students must complete a BID form and pay a CBC fee.
6. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

NOTES

1. Courses marked with § symbol require acceptance into clinicals prior to enrollment.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
3. Students will be selected for their initial core 526 courses using a petitioning process.
4. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
5. 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.
6. CPR Certification for Healthcare Professionals and annual TB testing must be obtained and maintained during the program.
7. Functional job requirements & a health physical assessment must be completed prior to clinical entry.
8. The prerequisite for this course must have been completed with a minimum grade of a „C" or better.

OTHER INFORMATION

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My counselor is _____. My counselor"s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Business Management & Administration	**Career Pathway ►** General Management	**SUPERVISORY MANAGEMENT** (10-196-1) *Associate of Applied Science Degree* **Offered Year Round at: Elkhorn & Racine Campuses & Online**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		196-100	*	Accelerated Learning		1	.5-1
		196-190	*	Leadership Development		3	3-0
		196-191	*	Supervision		3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 3)	3	3-0
Semester 2		196-192	*	Managing for Quality		3	3-0
		196-193	*	Human Resource Management		3	3-0
		804-123		Math with Business Applications	Prereq: 834-109 (See Note 3)	3	3-0
		Take 3 credits from the list in Note 2.				3	
Semester 3		196-134	*	Legal Issues for Supervisors	Prereq: 196-193	3	3-0
		196-136	*	Safety in the Workplace	Prereq: 196-192	3	3-0
		801-198		Speech		3	3-0
		103-100		Internet, Introduction		1	.5-1
Semester 4		196-164	*	Personal Skills for Supervisors	(See Note 1)	3	3-0
		196-169	*	Diversity and Change Management		3	3-0
		104-191		Internet Business Applications		1	.5-1
		809-166		Ethics: Theory & Applications, Intro to		3	3-0
Semester 5		196-189	*	Team Building and Problem Solving		3	3-0
		196-168	*	Organizational Development		3	3-0
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 3)	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 3)	3	3-0
Semester 6		196-188	***OR**	Project Management	Prereq: 196-189	3	3-0
		102-138		BIZ Internship	Prereq: 196-189		0-0-0-12
		101-112		Accounting for Business		3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 3)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives: 104-101 Marketing Principles (3 Cr)					
					Program Total Required	***69***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Supervisory Management 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 of the Supervisory Management Associate Degree Program should be able to:

1. Demonstrate oral and written communication skills essential for effective supervision.
2. Show supervisory leadership skills.
3. Apply computer software/hardware to supervisory functions in the work place.
4. Develop, appraise, and motivate employee performance.
5. Use decision-making and problem solving skills in a team setting.
6. Plan and perform human resource activities.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 69 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.

NOTES

1. Students who take Time Management (196-164A), Stress Management (196-164B), and Assertive Behavior (196-164C) need not take196-164.
2. Choose 3 credits from the following courses: 103-102; 103-109; 103-112; 103-110 or 103-199.
3. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
4. 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.
5. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Health Science	**Career Pathway ►** Therapeutic Services	**SURGICAL TECHNOLOGY** **(10-512-1)** *Associate of Applied Science Degree* **Offered at: Kenosha Campus**

Δ*Suggested Sequence*	√	*Course Number*		*Course Title*	*Requisites*	*Credits*	*Hrs/Wk Lec - Lab*
Summer		806-177	*	General Anatomy & Physiology	Prereq: 806-134 (See Note 8)	4	2-4
Semester 1		512-125	*	Intro to Surgical Technology	Prereq: 806-177 & Counselor Consent Coreq: 501-101	4	2-4
		512-126	*	Surgical Tech Fundamentals 1	Prereq: 806-177 & Counselor Consent Coreq: 501-101; 512-125	4	2-4
		512-127	*	Exploring Surgical Issues	Prereq: Counselor Consent Coreq: 512-125; 126	2	2-0
		501-101	*	Medical Terminology	Prereq: 838-105 (See Note 1)	3	3-0
		806-179	*	Anatomy and Physiology, Advanced	Prereq: 806-177 (See Note 8)	4	2-4
Semester 2		512-128	*	Surgical Tech Fundamentals 2	Prereq: 512-126; 501-101; 512-125; 512-127 Coreq: 806-179; 806-197; 512-129	4	2-4
		512-129	*	Surgical Pharmacology	Prereq: 512-125; 512-126	2	2-0
		512-130	*	Surgical Skills Applications 1	Prereq: 512-125; 126 Coreq: 512-128; 129	2	0-2-3
		806-197	*	Microbiology	Prereq: 806-177 (See Note 8)	4	3-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 3		512-131	*	Surgical Interventions 1	Prereq: 512-128; 512-130	4	4-0
		512-132	*	Surgical Technology Clinical 1	Prereq: 512-128; 130 & Instructor Consent Coreq: 512-131	3	0-0-9
		512-133	*	Surgical Technology Clinical 2	Prereq: 512-132 & Instructor Consent Coreq: 512-131	3	0-0-9
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
		801-196		Oral/Interpersonal Communication		3	3-0
Semester 4		512-134	*	Surgical Interventions 2	Prereq: 512-131; 512-133	3	3-0
		512-135	*	Surgical Technology Clinical 3	Prereq: 512-131; 133 & Instructor Consent Coreq: 512-134	3	0-0-9
		512-136	*	Surgical Technology Clinical 4	Prereq: 512-135 & Instructor Consent Coreq: 512-134	3	0-0-0-12
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.*** ***Suggested Electives:*** 804-106 College Math, Introduction to (3 Cr) 103-199 PC Basics/MS Office (3 Cr)				***6***	

Δ*Courses may be taken out of suggested sequence as long as requisites have been met.* ***Program Total Required*** ***70***

PROGRAM DESCRIPTION

Surgical Technology graduates function as a part of the surgical team in hospitals, surgical centers, and clinics under the direction of professional nurses and surgeons. Two academic years of classroom instruction, laboratory practice, and hospital experience prepare the graduate to function in the operating room and/or the central processing department. The graduate is qualified to prepare the surgical environment and function as a member of either the sterile or the nonsterile team during surgical procedures. As a member of the sterile surgical team, the surgical technologist is able to create the sterile environment and prepare and handle all supplies, instruments, equipment, and medications used within the sterile field. As members of the operative team, surgical technologists create the sterile environment, prepare and handle supplies, assist the surgeon and attend to the patient's needs while acting under the direct supervision of a surgeon and/or nurse. Graduates of this program will be eligible to take the national exam to be a Certified Surgical Technologist.

PROGRAM LEARNING OUTCOMES

Graduates of the Surgical Technology Program should be able to:

1. Apply health science, biomedical, and technological principles to the peri-operative environment
2. Apply principles of disinfection and sterilization to the surgical environment, equipment, and instrumentation
3. Maintain principles of sterile technique in the surgical environment
4. Prepare the operating room by gathering equipment and supplies
5. Pass instruments, equipment, and supplies in a safe and efficient manner
6. Provide a safe, efficient, and supportive environment for the peri-operative patient
7. Anticipate the sequence of events during surgical procedures
8. Demonstrate safe practice with medications and solutions
9. Function as an ethical, legal, and professional member of the healthcare team within the surgical technologist's scope of practice
10. Demonstrate proficiency on the comprehensive surgical technologist exam as specified by the NBSTSA

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 read., writing, pre-algebra, and algebra placement testing.
3. Students must verify, through official transcripts, high school, GED, or HSED completion.
4. Students must complete a Wisconsin residency form.
5. Students must complete a BID form and pay a CBC fee.
6. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

GRADUATION REQUIREMENTS

1. 70 Credits with an average of 2.0 or above.
2. *A minimum grade of 2.0 ("C") or above for these major courses.
3. A Program Assessment Exam must be completed online (required by AST).

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor 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 using a petitioning process.
7. CPR Certification must be obtained and maintained.
8. The prereq for this course must have been completed with a min. grade of 'C'

Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) require a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/ field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	TECHNICAL COMMUNICATIONS (10-699-1) Associate of Applied Science Degree Offered at: Racine Campus & Online
	Arts, A/V Technology & Communications	Journalism and Broadcasting	

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		103-199		PC Basics / Microsoft Office		3	2-2
		801-134	*	Technical Writing: Project Management		1	1-0
		801-135	*	Technical Writing: Portable Document Format		1	1-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 2)	3	3-0
		804-123		Math w/ Business Applications	Prereq: 834-109 (See Note 2)	3	3-0
		809-196		Sociology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
Semester 2		204-105		Computer Illustration & Drawing Tech		3	2-2
		801-106	*	Technical Writing: Layout & Design		2	2-0
		801-114	*	Technical Writing: Safety Info./Product Liability		1	1-0
		801-128	*	Technical Writing: Forms Design		1	1-0
		801-131	*	Technical Writing: Newsletter Writing		1	.5-1
		801-132	*OR	Technical Writing: Elec. Publish.-Mac/Windows		2	1-2
		801-111		Technical Writing: Electronic Publish/Windows			2-0
		801-196		Oral/Interpersonal Communication		3	3-0
		801-197		Technical Reporting	Prereq: 801-136	3	3-0
Semester 3		204-107		Digital Photography, Intro to		3	2-2
		801-107	*	Technical Writing: Audiovisual		2	2-0
		801-121	*	Technical Writing: Print Production		2	2-0
		801-124	*	Technical Writing: Edit/Proofreading		2	2-0
		801-125	*	Technical Writing: Vendor Management/Ethics		1	1-0
		801-133	*	Technical Writing: Introduction	Prereq: 801-136	2	1-2
		809-198		Psychology, Introduction to	Prereq: 838-105 (See Note 2)	3	3-0
Semester 4		801-113	*	Technical Writing: Online Documentation		2	2-0
		801-122	*	Technical Writing: Manuals	Prereq: 801-106; 801-132; 801-133; 801-197	3	3-0
		801-123	*	Technical Writing: Procedure Writing		2	2-0
		801-126	*	Technical Writing: Externship/Internship	(See Note 1)	3	1-0-0-8
		204-116		Webpage Design for Graphic Designers	Prereq: 204-107	3	2-2
		809-195		Economics	Prereq: 838-105 (See Note 2)	3	3-0
Electives		***Take 6 elective credits. Any associate degree level course may be taken as an elective.***				***6***	
		Suggested Electives:					
		801-108 TW: Sales Promotion (2 Cr)			801-102 TW: Online Help (1 Cr)		
		801-117 TW: Technical Applications (1 Cr)			801-120 TW: Grant/Proposal Writing (2 Cr)		
					Program Total Required	***67***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Technical Communications prepares graduates to write, illustrate, layout, and electronically publish such products as instructional literature, service literature, catalogue literature, promotional literature, journalistic literature, audiovisual programs, grant proposals, online documents, web pages, and departmental procedure writings. These skills are needed to meet the demands of the informational age in the business, industrial, medical, social, governmental, service, and entrepreneur market places. For specific information, contact Student Services.

PROGRAM LEARNING OUTCOMES

Graduates of the Technical Communications Associate Degree Program should be able to:

1. Apply social and professional principles of ethical, unbiased, and non-sexist communication.
2. Incorporate required illustrations and pictures into final electronic documents.
3. Revise, edit, and proofread documents to ensure safety requirements are met.
4. Transfer learning from one project to another and demonstrate knowledge of continuous improvement strategies.
5. Demonstrate interpersonal, problem solving, and team building skills.
6. Produce publishable technical, promotional, journalistic, departmental, and procedural documents.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 67 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.

NOTES

1. 801-126 has prereqs. of 801-106, 801-114, 801-132, 801-133, and 801- 197.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment in. See a counselor for details.
3. Students may take Speech (801-198) in place of Oral/Interpersonal Communication (801-196) to meet the requirement for this degree.
4. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

HAAS
POWER ON
POWER OFF
EMERGENCY STOP
HANDLE JOG
CYCLE START
NOTICE

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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 Master Class Schedule 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 2010-11 academic year.

Course descriptions are merely general summaries of various courses which may be offered at Gateway Technical College during the 2010-11 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 July 1, 2010. 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.

Please check with a Gateway counselor for admissions and enrollment information

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GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Transportation, Distribution & Logistics	**Career Pathway ►** Facility & Mobile Equipment Maintenance	**AUTOMOTIVE MAINTENANCE TECHNICIAN** (31-404-3) *Technical Diploma* **Offered at: Kenosha Horizon Center**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		602-122	*	Auto IT for Transportation		2	1-2
		602-107	*	Auto Service Fundamentals	Prereq: 602-122	2	1-2
		602-104	*	Brake Systems	Prereq: 602-107	3	2-2
		602-124	*	Steering & Suspension Systems	Prereq: 602-107	3	2-2
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		804-107		College Mathematics	Prereq: 834-109 (See Note 1 & 6)	3	3-0
Semester 2		602-125	*	Electrical & electronic Systems 1	Prereq: 602-107 Coreq: 804-107	2	1-2
		602-196	*	Climate Control Systems	Prereq: 602-127	3	2-2
		602-103	*	Engine Repair 1	Prereq: 602-127	2	1-2
		602-127	*	Electrical & Electronic Systems 2	Prereq: 602-125	3	2-2
		801-196		Oral/Interpersonal Communication		3	3-0
		809-195		Economics	Prereq: 838-105 (See Note 1)	3	3-0
					Program Total Required	***32***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Auto Maintenance Technician Technical Diploma Program should 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 believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Safety glasses are required in labs. If prescription safety glasses are needed, allow at least 90 days.
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. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
5. Formerly 804-106, Intro to College Math.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

Effective 2010-2011	Career Cluster ►	Career Pathway ►	BARBER / COSMETOLOGY (31-502-1) *Technical Diploma* Offered at: Racine Campus
	Human Services	Personal Care Services	

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Summer		502-312	*	Intro to Barber/Cosmetology		1	2-0
		502-324	*	Barber/Cosmetology Industry		2	4-0
		502-301	*	Shampoo Treatment		1	2-0
		502-318B	*	Facials B	Prereq: 502-318A	1	0-0-3
		502-305B	*	Basic Manicuring B	Prereq: 502-305A	1	0-0-3
		502-307B	*	Hair Design II B	Prereq: 502-307A	1	0-0-3
Semester 1 OR Semester 2		502-302A	*	Perm Techniques A		2	2-2
		502-302B	*	Perm Techniques B	Prereq: 502-302A	2	0-0-6
		502-303A	*	Chemical Straightening A	Prereq: 502-302A	2	2-2
		502-303B	*	Chemical Straightening B	Prereq: 502-303A	1	0-0-3
		502-318A	*	Facials A		2	2-2
		502-331A	*	Women's Haircutting A		2	2-2
		502-331B	*	Women's Haircutting B	Prereq: 502-331A	2	0-0-6
		502-332A	*	Men's Haircutting A	Prereq: 502-331A	2	2-2
		502-332B	*	Men's Haircutting B	Prereq: 502-332A	2	0-0-6
		502-304A	*	Basic Hair Color A		2	2-2
		502-304B	*	Basic Hair Color B	Prereq: 502-304A	2	0-0-6
		502-305A	*	Basic Manicuring A		2	2-2
		502-306A	*	Hair Design I A		2	2-2
		502-306B	*	Hair Design I B	Prereq: 502-306A	1	0-0-3
		502-307A	*	Hair Design II A		2	2-2
		502-336A	*	Bleaching A	Prereq: 502-304A	2	2-2
		502-336B	*	Bleaching B	Prereq: 502-336A	1	0-0-3
		502-344A	*	Advanced Salon Services A		1	0-0-3
		502-344B	*	Advanced Salon Services B		2	0-0-6
		801-302		Speaking Principles	(See Note 9)	1	2-0
		809-365		Social/Occupational Interaction and Skills	(See Note 9)	2	4-0

Program Total Required ***44***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Exciting careers are open to the licensed, experienced *Barber/Cosmetologist*. 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 Barber/Cosmetologist program is a three-semester Diploma program consisting of 1,800 hours of instruction. Students attend classes Monday through Friday as scheduled, and may attend full or part-time. Students receive instruction in Barber/Cosmetologist 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 of the Barber/Cosmetology Technician Diploma Program should 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.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. This is a high demand program with limited openings.
2. Program requires two semesters and summer school to complete 1800 hours on a full-time basis. Part-time attendance will extend student’s training time. Courses start every four weeks. Please call the counselor for details.
3. Student is required to purchase regulation uniforms for laboratory classes only.
4. Supplies and materials are required for this program. Approximate cost is $2500 per semester.
5. Students must be 18 years of age or a high school graduate to take the state licensure exam.
6. 502-338, Manicure/Nail Technician II is an optional course for State Manicurist/Nail Technician license.
7. Students must complete all classroom portions of a course before beginning any of the clinical portions .
8. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
9. This course is available in the summer also.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Architecture & Construction	**Career Pathway ►** Construction	**BUILDING TRADES - CARPENTRY** **(31-475-1)** *Technical Diploma* **Offered at: Elkhorn Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		475-300	*	Building Construction, Intro		3	2-4
		475-301	*	Building Construction, Fundamentals		5	2-8
		475-302	*	Residential Print Reading		2	2-2
		475-303	*	Framing Techniques 1		3	2-4
		804-350		Mathematics / Essential	Prereq: 834-109 (See Note 2)	2	4-0
		442-314		Welding, Fundamentals of		2	2-2
Semester 2		607-180		AutoCAD for Architecture		2	1-2
		475-304	*	Commercial Print Reading	Prereq: 475-302	1	1-1
		475-305	*	Framing Techniques 2	Prereq: 475-303	3	2-4
		475-306	*	Exterior Trim	Prereq: 475-301; 475-302	3	2-4
		475-307	*	Interior Trim	Prereq: 475-301; 475-302	5	2-8
		801-301		Writing Principles	Prereq: 851-760 (See Note 2)	1	2-0
		801-302		Speaking Principles		1	2-0

Program Total Required ***33***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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, welding and AutoCAD are included in the training.

PROGRAM LEARNING OUTCOMES

Graduates of the Building Trades - Carpentry Technical Diploma Program should 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 believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must verify, through official transcripts, high school, GED or HSED completion.
4. Students must complete a Wisconsin residency form.

GRADUATION REQUIREMENTS

1. 33 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.

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 a counselor for details.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Manufacturing	**Career Pathway ►** Production	**CNC PRODUCTION TECHNICIAN** **(31-444-2)** *Technical Diploma* **Offered at: Racine Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		420-342	*	CNC Intro/Support Equip Basic	Coreq: 420-345; 623-147	1	0-2
		420-344	*	CNC Offsets and Operations	Coreq: 420-345	1	2-0
		420-345	*	Gauging / Inspection	Coreq: 421-376; 804-370	2	2-2
		421-376	*	Blueprint Reading		2	2-2
		444-331	*	CNC Machining Technology	Coreq: 420-342	3	3-3
		444-332	*	CNC Production Applications	Prereq: 420-342 Coreq: 420-344; 444-331	2	2-2
		623-147	*	Manufacturing Shop Safety		1	1-0
		623-183	*	Statistical Process Control/CT		1	1-0
		801-302		Speaking Principles		1	2-0
		804-370		Mathematics I, Applied	Prereq: 834-109 (See Note 1)	2	4-0
Semester 2		421-316	*	Blueprint Reading, Advanced	Prereq: 421-376	2	2-2
		444-333	*	Fund. of CNC Turning Applications	Prereq: 444-331 Coreq: 421-316; 804-371	3	2-4
		444-334	*	Fund. Of CNC Milling Applications	Prereq: 444-331 Coreq: 421-316; 804-371	3	2-4
		444-335	*	CNC Lathe Set-Up	Coreq: 444-333	3	2-4
		444-336	*	CNC Mill Set-Up	Coreq: 444-334	3	2-4
		801-301		Writing Principles	Prereq: 851-760 (See Note 1)	1	2-0
		804-371		Mathematics II, Applied	Prereq: 804-370	1	2-0

Program Total Required ***32***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the CNC Production Technician Technical Diploma Program should be able to:

1. Develop an inspection plan and inspect simple parts using precision tools and techniques. Prepare reports on the compliance of the parts.
2. Keep the duty station clean and safe for work. Keep the tools, workbenches, and manual equipment clean, maintained, and safe for work.
3. Interpret blueprints to determine part details and specifications.
4. Set up and operate a CNC milling center.
5. Set up and operate turning centers.
6. Determine common programming codes and program format.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Safety glasses (marked Z-87) are required in labs. If prescription glasses are needed, allow a minimum of 90 days.
3. A hand calculator capable of trigonometric functions is required for 804-370; the cost is approximately $25.
5. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE Effective 2010/2011	Career Cluster ▶ Health Science	Career Pathway ▶ Therapeutic Services	COMMUNITY PHARMACY TECHNICIAN (30-536-1) *Technical Diploma* Offered at: Elkhorn Campus

	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		501-101		Medical Terminology	Prereq: 838-105 (See Note 2)	3	3-0
		536-112	*	**Pharmacy Business Applications**	**Coreq: 536-115; 536-120**	**3**	**3-0**
		536-115	*	Pharmacy Law	Coreq: 536-112; 536-120	2	2-0
		536-120	*	**Fund. Reading Prescriptions**	**Coreq: 536-112; 536-115**	**1**	**1-0**
Semester 2		**501-107**		**Intro to Healthcare Computing**	**(See Note 1)**	**2**	**1-2**
		501-104		Healthcare Customer Service	Prereq: 851-760 (See Note 5) & Counselor Consent; Coreq: 501-107	2	1-2
		536-110	*	**Pharmacy Calculations**	**Prereq: 501-101; 536-120 Coreq: 536-134**	**3**	**3-0**
		536-134	*	Managing Pharmacy Benefits	Prereq: 536-112; 536-120 Coreq: 536-110	3	3-0
Summer		536-138	*	Community Pharmacy Clinical	(See Note 4)	2	0-0-6
					Program Total Required	***21***	

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.

PROGRAM DESCRIPTION

The *Community 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 outpatient hospital pharmacies. Community 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 of the Community Pharmacy Technician Technical Diploma Program should be able to:

1. Prepare prescription and med. products under the supervision of a pharmacist.
2. Demonstrate customer service skills to patients, prescribers, insurance agents and other members of the community.
3. Demonstrate ability to work cooperatively within the pharmacy team.
4. Communicate effectively both verbally and in writing.
5. Demonstrate essential computer skills.
6. Complete math calculations accurately.
7. Prepare and manage pharmaceutical inventories.
8. Dem. the role of a Community Pharmacy Technician in the clinical setting.
9. Demonstrate a commitment to continuous learning and professional development.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must verify, through official transcripts, high school, GED or HSED completion.
4. Students must complete a BID form and pay a CBC fee.

GRADUATION REQUIREMENTS

1. 21 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.

NOTES

1. This course requires counselor consent, which will be granted only to students who either show the ability to type at 35WPM or complete a keyboarding course.
2. Clinical sites may require proof of health insurance, immunizations, and a physical.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
4. Course 536-138 can only be completed after all other program courses have been successfully completed.
5. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Health Science	**Career Pathway ►** Therapeutic Services	**DENTAL ASSISTANT** **(31-508-1)** *Technical Diploma* **Offered at: Kenosha Campus**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		508-101	*	Dental Health Safety	(See Notes 4&6)	1	0-2
		508-103	*	Dental Radiography	(See Note 4)	2	1-0-3
		508-113	*	Dental Materials	(See Note 4)	2	1-2
		508-302	*	Dental Chairside	Coreq: 508-101; 508-113; 508-304	5	6-4
		508-304	*	Dental and General Anatomy		2	4-0
		508-306	*	Dental Assistant Clinicals	(See Note 6)	3	0-0-9
		508-307	*	Dental Assistant Professionalism	(See Note 1)	1	2-0
Semester 2		508-120	*	Dental Office Management	Prereq: 508-307 (See Note 1)	2	2-0
		508-308	*	Dental Chairside – Advanced	Prereq: 508-302	5	5-4
		508-309	*	Dental Laboratory Procedure	Prereq: 508-113	4	4-4
		508-310	*	Dental Radiography – Advanced	Prereq: 508-103	1	0-2
		508-311	*	Dental Assistant Clinicals - Advanced	Prereq: 508-306 (See Note 6)	2	0-0-0-8
		801-301		Writing Principles	Prereq: 851-760 (See Notes 2&5)	1	2-0
		801-302		Speaking Principles	(See Notes 2&5)	1	2-0

Program Total Required ***32***

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.

PROGRAM DESCRIPTION

Dental Assistant prepares individuals to assist in patient care under the direct supervision of a dentist. The program combines lecture, laboratory, and internships with clinical settings. These experiences include chairside assisting, radiography techniques, manipulation of dental materials, and office procedures for general and specialty practices. In addition to employment as a chairside assistant, other related careers may include infection control coordinator, dental office manager, and business assistant.

PROGRAM LEARNING OUTCOMES

Graduates of the Dental Assistant Technical Diploma Program should be able to:

1. Collect diagnostic and treatment data
2. Manage infection and hazard control
3. Perform clinical supportive treatments
4. Take diagnostic radiographs
5. Perform dental laboratory procedures
6. Provide patient oral health instruction
7. Assist in managing dental emergencies
8. Model professional behaviors, ethics and appearance
9. Carry out dental office procedures

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must verify, through official transcripts, high school, GED or HSED completion.
4. Students must complete a WI residency form.
5. Students must complete a BID and pay a CBC fee.
6. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

GRADUATION REQUIREMENTS

1. 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.

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 a counselor 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 who have earned a grade of “C”(2.0) or higher in any of these courses and are accepted into a Dental Hygiene program will be considered to have completed the course of the same name for that program in Wisconsin.
5. Students may take Oral/Interpersonal Skills (801-196) in place of these 2 courses – 801-301 & 801-302
6. CPR for the healthcare provider is required and must be presented prior to taking the course.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Transportation, Distribution & Logistics	**Career Pathway ►** Facility & Mobile Equipment Maintenance	**DIESEL EQUIPMENT MECHANIC** **(31-412-1)** *Technical Diploma* **Offered at: Kenosha Horizon Center**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		412-117	*	Diesel Suspension & Steering Systems	Prereq: 412-111	3	1-4
		412-111	*	Diesel Maintenance Fundamentals		2	1-2
		412-107	*	Diesel Electricity 1	Prereq: 412-111	4	2-4
		412-114	*	Diesel Heating, Cooling & Air Cond	Prereq: 412-111	3	2-2
		804-107		College Mathematics	Prereq: 834-109 (See Note 1)	3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 2		412-109	*	Diesel Engine Service	Prereq: 412-111	5	2-6
		412-106	*	Diesel Brake Systems	Prereq: 412-111	4	2-4
		412-115	*	Diesel Hydraulic Systems	Prereq: 412-111	2	1-2
		801-197		Technical Reporting	Prereq: 801-136	3	3-0

Program Total Required ***32***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Diesel Equipment Mechanic Program should be able to:

1. Diagnose, service and repair diesel hydraulic systems
2. Diagnose, service and repair diesel suspension and steering systems
3. Diagnose, service and repair diesel brake systems
4. Diagnose, service and repair diesel simple electricity and electronic systems
5. Diagnose, service and repair diesel heating, cooling and air conditioning systems

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 32 Credits with an average of 2.0 or above.
2. Average of 2.0 (“C”) or above for all 412 major courses.

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

NOTES

1. A satisfactory placement rest score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Tablet computer required for this program. See counselor for a fact sheet describing minimum requirement.
3. Work uniform is required. See counselor for details.
4. Safety glasses are required in labs. If prescription safety glasses are required, allow a minimum of 90 days.
5. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites has been satisfied (or waived with department approval.)
6. A state issued Commercial Driver License (CDL) is not required for the program but highly recommended. Gateway Technical College does not offer CDL training.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor’s contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	EMERGENCY MEDICAL TECHNICIAN (30-531-3)
	Public Safety, Corrections & Security	Emergency and Fire Management Services	*Technical Diploma* Offered at: Burlington Center

Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
531-192	EMT Basic	Prereq: Instructor Consent (See Note 1)	4	4-4
		Program Total Required	***4***	

PROGRAM DESCRIPTION

Emergency Medical Technician is a 140 hour training course based on the Department of Transportation Emergency Medical Technician (EMT) national standard ambulance curriculum. The program covers emergency medical techniques currently considered to be within the responsibility of the EMT-Basic individual providing emergency care with an ambulance service. Instruction involves lecture, practical, and hospital observation training. Upon successful completion of the program, the participant will qualify for certification and the National Registry Emergency Medical Technician exam.

PROGRAM LEARNING OUTCOMES

Graduates of the EMT-Basic Technical Diploma Program should be able to:

1. Demonstrate skills in patient extrication, packaging, and safe movement.
2. Perform CPR and airway management.
3. Understand legal liabilities and requirements of professional conduct to operate as an EMT.
4. Perform a successful trauma and medical assessment and treatment.
5. Interact with patients in a compassionate and professional manner.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

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

ADMISSION REQUIREMENTS

1. Students must submit an application (no fee).
2. Students must complete a reading placement test.

GRADUATION REQUIREMENTS

1. 4 Credits with an average of 2.0 or above.

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

NOTES

1. Due to state regulations, students must be accepted by and registered through the Emergency Medical Service Supervisor.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Public Safety, Corrections & Security	**Career Pathway ►** Emergency and Fire Management Services	**EMT - INTERMEDIATE** **(30-531-7)** *Technical Diploma* **Offered at: Burlington Center**

Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
531-324	EMT – Intermediate Lecture	Coreq: 531-325	4	7-0
531-325	EMT – Intermediate Lab	Coreq: 531-324	3	0-6
531-322	EMT – Intermediate Clinical	Prereq: 531-192 Coreq: 531-324; 531-325	2	0-0-7
		Program Total Required	***9***	

PROGRAM DESCRIPTION

EMT-Intermediate builds on the skills of a licensed EMT-Basic provider. Course and clinical work will allow students to perform advanced level skill assessments, to administer first line cardiac drug therapy, and to achieve a higher level of clinical decision-making skills.

PROGRAM LEARNING OUTCOMES

Graduates of the EMT-Intermediate Technical Diploma Program should be able to:

1. Demonstrate skills in patient extrication, packaging, and safe movement.
2. Perform CPR and advanced airway management (endotracheal intubation).
3. Understand legal liabilities and requirements of professional conduct to operate as an EMT.
4. Perform a successful trauma and medical assessment and treatment.
5. Interact with patients in a compassionate and professional manner.
6. Understand and demonstrate safe practice in the administration of approved medications given via the IV (intravenous), IM (intramuscular), SQ (subcutaneous), IO (intraosseous), and inhaled routes.
7. Integrate the appropriate use intravenous fluids, and advanced life support medications in the treatment of cardiac disturbances including chest pain, (arrhythmias, and cardiac arrest), congestive heart failure, respiratory distress and arrest, diabetic emergencies, and altered level of consciousness patients.
8. Integrate the appropriate use of end tidal carbon dioxide detectors, peak flow meters, pulse oximetry and needle chest decompression.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 BID form and pay a CBC fee.
3. Students must have passed EMT-Basic and have a current WI EMT license.

GRADUATION REQUIREMENTS

1. 9 Credits with a minimum grade of 2.0 ("C") or better in each course.

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

NOTES

1. Due to state regulations, students must be accepted by and registered through the Emergency Medical Service Supervisor.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE Effective 2010/2011	Career Cluster ►	Career Pathway ►	EMT – INTERMEDIATE TECH (30-531-6) *Technical Diploma* Offered at: Burlington Center
	Public Safety, Corrections & Security	Emergency and Fire Management Services	

Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
531-311	EMT – Intermediate Technician	Prereq: Instructor Consent	2	2-2
		Program Total Required	***2***	

PROGRAM DESCRIPTION

EMT-Intermediate Tech builds on the skills of a licensed EMT-Basic provider. Course and clinical work will allow students to perform IV therapy and drug administration, increase clinical decision-making skills, and develop competencies in patient assessment at this advanced level. Upon successful completion of the didactic, lab, and clinical components of this program, the participant will be eligible for certification and testing though the Wisconsin Division of Health.

PROGRAM LEARNING OUTCOMES

Graduates of the EMT-Intermediate Tech Technical Diploma Program should be able to:

1. Demonstrate skills in patient extrication, packaging, and safe movement.
2. Perform CPR and airway management.
3. Understand legal liabilities and requirements of professional conduct to operate as an EMT.
4. Perform a successful trauma and medical assessment and treatment.
5. Interact with patients in a compassionate and professional manner.
6. Understand and demonstrate safe practice in the administration of approved medications given via the IV (intravenous), IM (intramuscular), SQ (subcutaneous), and inhaled routes.
7. Integrate the appropriate use intravenous fluids, and medications in the treatment of cardiac, respiratory, diabetic, and altered level of consciousness patients.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

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

ADMISSION REQUIREMENTS

1. Students must submit an application (no fee).
2. Students must have successfully passed EMT Basic and have a current Wisconsin EMT license.

GRADUATION REQUIREMENTS

1. 2 Credits with an average of 2.0 or above.

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

NOTES

1. Due to state regulations, students must be accepted by and registered through the Emergency Medical Service Supervisor.
2. This program was formerly called EMT Basic IV Technician.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Public Safety, Corrections & Security	**Career Pathway ►** Emergency and Fire Management Services	**EMT - PARAMEDIC** **(31-531-1)** *Technical Diploma* **Offered at: HERO Center - Burlington**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		531-151	*	Paramedic Fundamentals	Prereq: Instructor Consent	5	4-2
		531-152	*	Paramedic Pharmacology	Prereq: 531-151	4	3-1
		531-155	*	Respiratory Management	Prereq: 531-152	2	1-2
		531-156	*	Cardiology 1	Prereq: 531-155	3	2-2
		531-157	*	Clinical 1	Prereq: 531-155	4	0-0-0-16
Semester 2		531-158	*	Cardiology 2	Prereq: 531-156	3	2-2
		531-159	*	Medical Emergencies	Prereq: 531-158	3	2-2
		531-164	*	Trauma Emergencies	Prereq: 531-159	3	2-2
		531-165	*	Emergency Care for Specialists	Prereq: 531-164	3	2-2
		531-166	*	EMS Operations	Prereq: 531-165	3	1-3
		531-167	*	Clinical 2	Prereq: 531-158	3	0-0-0-12

Program Total Required ***36***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Emergency Medical Technician - Paramedic requires students to be licensed in Wisconsin at the EMT Basic (also known as Emergency Medical Technician), EMT Intermediate Technician (also known as Advanced Emergency Medical Technician), or EMT Intermediate level and be current in Healthcare Provider CPR. 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 will permit the student to take the written and practical National Registry certification exam. The technical portion includes approximately 650 hours of classroom lecture and skills lab, 288 hours spent in hospital clinical situations, and 216 hours of supervised field time with a paramedic level ambulance. Graduates of this program can expect to find employment with private ambulance companies, fire departments, or hospital emergency rooms. All courses in the diploma program can be applied to the Paramedic Technician AAS degree.

PROGRAM LEARNING OUTCOMES

Graduates of the EMT - Paramedic Program should be able to:

1. Perfm. an adv. assessment and render approp. treatment for a trauma patient.
2. Perfm. an adv. assessment and render approp. treatment for a medical patient.
3. Provide advanced cardiac life support.
4. Administer oral, IV sub Q, intramuscular, and endotracheal medications.
5. Perform an endotracheal intubation on a patient.
6. Understand organ systems and pathophysiology pertaining to those systems.
7. Interpret/treat a variety of cardiac rhythms.
8. Perform therapeutic communications in both written and verbal formats.
9. Interact with patients in a compassionate and professional manner.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must complete a BID and pay a CBC fee.
4. Students must have current CPR certification.
5. Students must have passed EMT – Basic and have a current Wisconsin EMT license.

GRADUATION REQUIREMENTS

1. 36 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
3. Prior to enrolling in 531 courses, a student must satisfactorily complete a specific EMS pre-admission test involving both written and practical testing at the EMT-Basic (Emergency Medical Technician level) and attend an informational orientation with the program staff.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

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My counselor is _____. My counselor’s contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	FACILITIES MAINTENANCE (31-443-2) Technical Diploma Offered at: Kenosha Campus
	Architecture & Construction	Maintenance / Operations	

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		442-101	*	Welding Basics		1	0-2
		601-111	*	Workplace Fundamentals		1	0-2
		605-107	*	Fund. of Electricity/Electronics		3	1-4
		103-199		PC Basics / Microsoft Office		3	2-2
		801-301		Writing Principles	Prereq: 851-760 (See Note 1)	1	2-0
		804-370		Mathematics I, Applied	Prereq: 834-109 (See Note 1)	2	4-0
Semester 2		443-311	*	Electrical Applications		3	2-4
		443-312	*	Basic Carpentry and Repair		2	1-3
		443-313	*	Interior Finishing		2	1-3
		443-314	*	Mechanical Systems		2	1-3
		443-315	*	Industrial Preventative Maintenance		2	1-3
		601-112	*	Environmental Systems		2	1-2
		602-106	*	Fleet Maintenance		2	1-2
		804-371		Mathematics II, Applied	Prereq: 304-370	1	2-0
					Program Total Required	***27***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Facilities Maintenance Diploma Program should be able to:

1. Perform basic drywall repairs.
2. Understand need and use of electrical safety devices.
3. Use portable power tools safely.
4. Perform basic preventative maintenance procedures on HVAC equipment.
5. Understand operation of plumbing systems.
6. Perform basic maintenance procedures on small power equipment.
7. Perform basic maintenance procedures on automotive fleet.
8. Understand basic interior wall and ceiling construction methods.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 27 Credits with an average of 2.0 or above.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Health Science	**Career Pathway ►** Support Services	**HEALTH UNIT COORDINATOR** **(30-510-2)** *Technical Diploma* **Offered at: Racine Campus**

	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		501-101	*	Medical Terminology	Prereq: 838-105 (See Note 2)	3	3-0
		501-107	*	Intro to Healthcare Computing	(See Note 1)	2	1-2
		501-104	*	Healthcare Customer Service	Prereq: 851-760 (See Note 2) & Counselor Consent; Coreq: 501-107	2	1-2
		510-301	*	Health Unit Coordinator Procedures I	Coreq: 501-101; 501-104; 501-107 (See Note 5)	3	6-0
		510-302	*	Health Unit Coordinator Procedures II	Prereq: 510-301 (See Note 5)	3	6-0
		510-303	*	Health Unit Coordinator Clinical	Coreq: 510-302 (See Note 5)	3	0-2-6
		801-301		Writing Principles	Prereq: 851-760 (See Note 2)	1	2-0

Program Total Required ***17***

PROGRAM DESCRIPTION

Health Unit Coordinator prepares the student for employment in a variety of health care settings. The program prepares the student to professionally coordinate health unit operations, transcribe medical orders, communicate effectively in a health care environment, and manage client information. The program includes theory, simulated activities, and experience in a health care setting.

PROGRAM LEARNING OUTCOMES

Graduates of the Health Unit Coordinator Technical Diploma Program should be able to:

1. Manage client information.
2. Integrate the role of the Health Unit Coordinator in the health care system.
3. Coordinate health unit operations.
4. Communicate professionally in the health care environment.
5. Transcribe medical orders.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must verify through official transcripts high school, GED or HSED completion.
4. Students must complete a BID form and pay a CBC fee.
5. Students must complete a Wisconsin residency form.
6. Students must complete a functional ability form verifying they have read and understand the functional abilities for the program.

GRADUATION REQUIREMENTS

1. 17 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.

NOTES

1. This course requires counselor consent, which will be granted only to students who either show the ability to type at 35WPM or complete a keyboarding course.
2. A satisfactory placement test score (or successful remediation) is required prior to enrollment See a counselor for details.
3. Clinical sites may require proof of health insurance, immunizations, and a physical.
4. Any non-510 course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
5. Students must petition prior to enrolling in 510 courses.
6. Clinical sites may be at a facility located anywhere in the Gateway District. Students are responsible for their own transportation.

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Health Science	**Career Pathway ►** Therapeutic Services	**MEDICAL ASSISTANT** **(31-509-1)** *Technical Diploma* **Offered at: Elkhorn & Racine Campuses & Online**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		509-301	*	Medical Assistant Admin Procedures	Coreq: 501-107	2	3-1
		509-303	*	Medical Assistant Lab Procedures 1	Coreq: 509-304	2	2-2
		509-304	*	Medical Assistant Clinical Procedures 1	Prereq: Counselor Consent	4	4-4
		509-302	*	Human Body in Health and Disease	Coreq: 501-101	3	6-0
		501-107	*	Intro to Healthcare Computing	(See Note 6)	2	1-2
		501-101	+ * §	Medical Terminology	Prereq: 838-105 (See Note Below)	3	3-0
Semester 2		509-305	*	Medical Assistant Lab Procedures 2	Prereq: 509-303	2	2-2
		509-306	*	Medical Assistant Clinical Procedures 2	Prereq: 509-303; 509-304 Coreq: 509-308	3	4-2
		509-307	*	Medical Office Insurance & Finance	Coreq: 501-107; 509-302	2	0-4
		509-308	*	Pharm for Allied Health	Coreq: 509-302	2	4-0
		509-309	*	Medical Law, Ethics and Professionalism		2	4-0
		801-136	+***OR***	English Composition 1	Prereq: 831-103 (See Note Below)	3	3-0
		801-301		Writing Principles	Prereq: 851-760 (See Note Below)	1	2-0
		A four week practicum follows the completion of the second semester.					
		509-310	*	Medical Assistant Practicum	Prereq: Instructor Consent	3	0-0-9

Program Total Required 31 OR 33

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

+ A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.

PROGRAM DESCRIPTION

Medical Assistant graduates are prepared to work in a physician's office, a medical clinic, and some areas of the hospital or laboratory. Related occupations include medical transcription, veterinary and pharmacy assistant. The Medical Assistant Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Committee on Accreditation for Medical Assistants Education, also known as the Medical Assisting Education Review Board (MAERB). Grads are eligible to take the national certification exam. The curriculum provides a balance of clinical, admin., and lab. training to prepare grads with competent skills. Classroom instruction is augmented by a supervised clinical office practicum, which permits students to gain on-the-job training. The program, which may be completed in one year of full-time study, may be started in Sept. or Jan.

PROGRAM LEARNING OUTCOMES

Graduates of the Medical Assistant Program should be able to:

1. Perform clerical functions.
2. Perform bookkeeping procedures.
3. Prepare special accounting entries.
4. Apply principles of medical asepsis.
5. Perform specimen collection.
6. Perform diagnostic testing.
7. Process insurance claims.
8. Provide patient care.
9. Communicate effectively.
10. Apply legal and ethical concepts.
11. Instruct patients.
12. Perform medical office operational functions.
13. Demonstrate professionalism in a health care setting.

Contact www.aama-ntl.org for more information.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must verify, through official transcripts, high school, GED or HSED completion.
4. Students must complete a BID form and pay a CBC fee.

GRADUATION REQUIREMENTS

1. 33 Credits with an average of 2.0 or above.
2. A grade of C or better for each of these (*) courses.
3. §Can't be completed more than 26 mos. prior to entry in 509-308, 509-303, 509-304.

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

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. Students must complete all other coursework, submit a completed health phys. and sub. evidence of cert. in Medic 1st Aid & CPR prior to enrolling in 509-310.
4. When there has been an interruption between core (*) courses and Clinical Office Practice, the student must enroll in and successfully complete, Update for Health Professionals (509-433) prior to the practicum.
5. Some courses may be taken prior to entry in the program, assuming all requisites have been satisfied (or waived with department approval).
6. This course requires counselor consent which will be granted only to students who show the ability to type at 35WPM or complete a keyboarding course.
7. Persons conv. of a felony are not eligible to sit for the cert. 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

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	MEDICAL TRANSCRIPTION (31-106-7) *Technical Diploma* Offered at: Racine Campus
	Health Science	Administrative Services	

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		106-001	*	Computer Applications		1	0-2
		106-370	*	Medical Transcription I	Coreq: 106-001; 501-101; 509-302 (See Below §)	4	3-5
		501-101	*	Medical Terminology	Prereq: 838-105 (See Note 1)	3	3-0
		509-302		Human Body Health & Disease	Coreq: 501-101	3	6-0
		801-301		Writing Principles	Prereq: 851-760 (See Note 1)	1	2-0
		809-365		Social / Occup. Interaction & Skills		2	4-0
Semester 2		106-371	*	Medical Transcription II	Prereq: 106-370 (See Note 5)	4	2-6
		106-373	*	Medical Transcriptionists Func.	Prereq: 106-370; 509-302	3	4-2
		106-384	*	Word Processing Applied	Prereq: 106-001	3	2-4
		801-302		Speaking Principles		1	2-0
		A four week externship follows the completion of the required coursework.					
		106-374	*	Medical Transcriptionist Externship	Prereq: Instructor Consent	1	0-0-0-4

Program Total Required ***26***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

§ This course (106-370) requires instructor consent which will be granted only to students who show the ability to type 45WPM.

PROGRAM DESCRIPTION

Medical Transcription prepares individuals to work in hospitals, clinics, and doctor's offices. Emphasis is on transcription, word processing, and medical terminology. Other areas of concentration include English grammar skills, spelling, typing skills, accuracy, and professional and ethical conduct. Classroom instruction is augmented by a supervised office experience, which permits students to gain on-the-job training. The program may be completed in one year of full-time study. Graduates are eligible to take the certification exam through the American Association of Medical Transcription.

PROGRAM LEARNING OUTCOMES

Graduates of the Medical Transcription Technical Diploma Program should be able to:

1. Summarize legal regulations concerned within the scope of a medical transcriptionist.
2. Demonstrate a commitment to continuous learning and self-respect.
3. Classify frequently prescribed medications.
4. Appropriately use related references and other resources for research and practice.
5. Show proficiency in identifying obvious medical inconsistencies.
6. Concentrate with excellent listening skills.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.
3. Students must verify, through official transcripts, high school, GED, or HSED completion.

GRADUATION REQUIREMENTS

1. 26 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Clinical sites may require proof of insurance and criminal background checks.
3. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
4. 509-302 cannot be completed more than 26 months prior to entry into 106-370.
5. This course cannot be completed more than 26 months after Medical Transcription I (106-370).

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES

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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Health Science	**Career Pathway ►** Therapeutic Services	**NURSING ASSISTANT** **(30-543-1)** *Technical Diploma* **Offered at: All Campuses**

Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
543-300	Nursing Assistant	Prereq: Counselor Consent	3	4-2
		Program Total Required	***3***	

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.

PROGRAM DESCRIPTION

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 of the Nursing Assistant Technical Diploma Program should 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 believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

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

ADMISSION REQUIREMENTS

1. Students must submit an application (no fee).
2. Students must complete reading, writing and pre-algebra placement testing.
3. Students must complete a BID form and pay a CBC fee.
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. 3 Credits with an average of 2.0 or above.

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

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.

OTHER INFORMATION

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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Business Management & Administration	**Career Pathway ►** Administrative Services	**OFFICE ASSISTANT** **(31-106-1)** *Technical Diploma* **Offered at: All Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		106-112	*	Records Management		2	2-0
		106-137	*	Keyboarding Applications		3	1-4
		106-178	*	Office Proofreading & Editing		2	2-0
		804-123	*	Math with Business Applications	Prereq: 834-109 (See Note 1)	3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
		801-196		Oral/Interpersonal Communication		3	3-0
Semester 2		106-002	*	Publication Design for the Office	Prereq: 106-137	3	2-2
		106-003	*	Word Processing for the Office	Prereq: 106-137	4	2-4
		106-119		Professional Development		2	2-0
		106-138	*	Automated Office Apps I	Prereq: 106-137	3	2-2
		106-392	*	Office Field Study	Prereq: 106-137 Coreq: 106-119	1	1-1
		103-110	*	Microsoft PowerPoint		1	.5-1
		101-112		Accounting for Business		3	3-0

Program Total Required ***33***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 of the Office Assistant Technical Diploma Program should be able to:

1. Conduct a search over the Internet.
2. Apply knowledge of filing rules.
3. Edit a document.
4. Communicate effectively in writing.
5. Demonstrate keyboarding skills.
6. Demonstrate knowledge of database software using a computer system.
7. Work cooperatively on a team project.
8. Demonstrate knowledge of spreadsheet software using a computer system.
9. Demonstrate professionalism in a group setting.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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 the Master Class Schedule 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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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Business Management & Administration	**Career Pathway ►** General Management	**SMALL BUSINESS ENTREPRENEURSHIP (31-145-1)** *Technical Diploma* **Offered at: Elkhorn and Kenosha Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		104-101	*	Marketing Principles		3	3-0
		101-112	*	Accounting for Business		3	3-0
		103-199	*	PC Basics / Microsoft Office		3	2-2
		145-105 145-108	*OR	Entrepreneurship 1 – Feasibility Entrepreneurship – Evaluation	Coreq: 801-136	3	3-0
		801-136		English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
Semester 2		145-104 145-110 145-109	*OR	Entrepreneurship 2 – New Venture Planning Entrepreneurship – Growth Venture Entrepreneurship – Green/Tech Venture	*(take 145-104 or 110 or 109)*	3	3-0
		104-105	*	Promotion Principles		3	3-0
		104-170	*	Business Purchasing		3	3-0
		145-106	*	Entrepreneurship 3 – Operations MGMT	Coreq: 145-105	3	3-0
		104-198	*	E-Commerce Marketing	Prereq: 104-101	3	3-0
		104-104	*	Selling Principles		3	3-0

Program Total Required ***33***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

Small Business Entrepreneurship, which can be completed in one year of study if taken full time, concentrates on the many technical skills needed to operate a small business and to be an entrepreneur. Course work includes writing both a business and marketing plan, small business operations, accounting for business, introduction to microcomputers, business purchasing, marketing and selling principles, ecommerce marketing, promotion, and supervision principles.

PROGRAM LEARNING OUTCOMES

Graduates of the Small Business Entrepreneurship Program should be able to:

1. Develop a business and marketing plan for a small to medium size business.
2. Demonstrate tasks necessary to operate a small to medium size business.
3. Apply the proper marketing concepts for a successful business.
4. Demonstrate basic accounting and computer skills.
5. Develop supervisory skills in the operations of a business.
6. Apply current and emerging technologies for a small business (including e-commerce) to be successful.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.
2. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Manufacturing	**Career Pathway ►** Production	**WELDING** **(31-442-1A) - Robotics** *Technical Diploma* **Offered at: Racine and Elkhorn Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		442-321	*	Welding / Gas Metal Arc Welding		3	2-4
		442-322	*	Welding / Shielded Metal Arc Welding		3	2-4
		442-323	*	Welding / Gas Tungsten Arc Welding		3	2-4
		442-324	*	Weld Printreading & Fab. Procedures		2	2-2
		442-334	*	Welding / Oxyacetylene		3	2-4
		801-301		Writing Principles	Prereq: 851-760 (See Note 1)	1	2-0
		804-350		Mathematics / Essential	Prereq: 834-109 (See Note 1)	2	4-0
Semester 2		442-326	*	Welding / Robotic Advanced GTAW	Coreq: 442-335	4	4-4
		442-327	*	Welding / Robotic Advanced GMAW	Coreq: 442-335	4	4-4
		442-328	*	Welding / Robotic & Plasma Welding	Coreq: 442-335	2	2-2
		442-335	*	Welding / Rob. Prgrm. & Plasma Cutting	Prereq: 442-321; 442-322; 442-323; 442-334	2	4-0

Program Total Required ***29***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 arc); GTAW-gas tungsten arc welding (TIG, heliarc); SMAW-shielded metal arc welding (stick, arc), including plasma arc cutting; and robotic welding and cutting.

PROGRAM LEARNING OUTCOMES

Graduates of the Welding Technical Diploma Program should be able to:

1. Prepare three groups of metal plate (stainless steel, aluminum, and mild steel) for a butt joint.
2. Use correct filler wire on welding machines.
3. Use and demonstrate proper safety gear and equipment.
4. Prepare pipe coupons for welding.
5. Use a WPS for AWS D1.1 and ASME Sec IX.
6. Correctly program housekeeping codes for processes used.
7. Have robots perform operations with 100% accuracy.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See counselor for details.
2. Safety glasses are required in labs. If prescription glasses are required, allow a minimum of 90 days.
3. A hand calculator capable of trigonometric functions is recommended for 442-324; the cost is approximately $20.
4. Students are required to have an arc welding helmet, oxy-acet goggles, chipping hammer and welding gloves (leather); the cost is approximately $50. Students must be prepared to bring their own equipment.
5. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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My counselor is _____. My counselor’s contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Manufacturing	**Career Pathway ►** Production	**WELDING** **(31-442-1B) – Advanced Welding** *Technical Diploma* **Offered at: Racine and Elkhorn Campuses**

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		442-321	*	Welding / Gas Metal Arc Welding		3	2-4
		442-322	*	Welding / Shielded Metal Arc Welding		3	2-4
		442-323	*	Welding / Gas Tungsten Arc Welding		3	2-4
		442-324	*	Weld Printreading & Fab. Procedures		2	2-2
		442-334	*	Welding / Oxyacetylene		3	2-4
		801-301		Writing Principles	Prereq: 851-760 (See Note 1)	1	2-0
		804-350		Mathematics / Essential	Prereq: 834-109 (See Note 1)	2	4-0
Semester 2		442-329	*	Welding / Advanced Oxyacetylene	Prereq: 442-334	2	2-2
		442-330	*	Welding / Adv. Shielded Metal Arc Welding	Prereq: 442-322	3	4-2
		442-332	*	Welding / Adv. Gas Metal Arc Welding	Prereq: 442-321	3	4-2
		442-333	*	Welding / Adv. Gas Tungsten Arc Welding	Prereq: 442-323	3	2-4

Program Total Required ***28***

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 arc); GTAW-gas tungsten arc welding (TIG, heliarc); SMAW-shielded metal arc welding (stick, arc), including plasma arc cutting; and robotic welding and cutting.

PROGRAM LEARNING OUTCOMES

Graduates of the Welding Technical Diploma Program should be able to:

1. Prepare three groups of metal plate (stainless steel, aluminum, and mild steel) for a butt joint.
2. Use correct filler wire on welding machines.
3. Use and demonstrate proper safety gear and equipment.
4. Prepare pipe coupons for welding.
5. Use a WPS for AWS D1.1 and ASME Sec IX.
6. Correctly program housekeeping codes for processes used.
7. Have robots perform operations with 100% accuracy.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment.
2. Safety glasses are required in labs. If prescription glasses are required, allow a minimum of 90 days.
3. A hand calculator capable of trigonometric functions is recommended for 442-324; the cost is approximately $20.
4. Students are required to have an arc welding helmet, oxy-acet goggles, chipping hammer and welding gloves (leather); the cost is approximately $50. Students must be prepared to bring their own equipment.
5. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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My counselor is _____. My counselor’s contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	**WELDING** **(31-442-1C) – Pipe Welding** *Technical Diploma* **Offered at: Racine and Elkhorn Campuses**
	Manufacturing	Production	

Δ Suggested Sequence	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		442-321	*	Welding / Gas Metal Arc Welding		3	2-4
		442-322	*	Welding / Shielded Metal Arc Welding		3	2-4
		442-323	*	Welding / Gas Tungsten Arc Welding		3	2-4
		442-324	*	Weld Printreading & Fab. Procedures		2	2-2
		442-334	*	Welding / Oxyacetylene		3	2-4
		801-301		Writing Principles	Prereq: 851-760 (See Note 1)	1	2-0
		804-350		Mathematics / Essential	Prereq: 834-109 (See Note 1)	2	4-0
Semester 2		442-342	*	Welding / Pipe Oxyacetylene Fitting	Prereq: 442-334	1	0-2
		442-343	*	Welding / Pipe Shielded Metal Arc Welding	Prereq: 442-322	2	2-2
		442-344	*	Welding / Pipe Shielded Metal Arc Welding Certification	Prereq: 442-322	2	2-2
		442-345	*	Welding / Pipe Gas Tungsten Arc Welding	Prereq: 442-322; 442-323	2	2-2
		442-346	*	Welding / Pipe Gas Tungsten Arc Welding Certification	Prereq: 442-323	2	2-2
		442-347	*	Welding / Pipe Gas Metal Arc Welding	Prereq: 442-321	2	2-2
					Program Total Required	***28***	

Δ *Courses may be taken out of suggested sequence as long as requisites have been met.*

PROGRAM DESCRIPTION

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 arc); GTAW-gas tungsten arc welding (TIG, heliarc); SMAW-shielded metal arc welding (stick, arc), including plasma arc cutting; and robotic welding and cutting.

PROGRAM LEARNING OUTCOMES

Graduates of the Welding Technical Diploma Program should be able to:

1. Prepare three groups of metal plate (stainless steel, aluminum, and mild steel) for a butt joint.
2. Use correct filler wire on welding machines.
3. Use and demonstrate proper safety gear and equipment.
4. Prepare pipe coupons for welding.
5. Use a WPS for AWS D1.1 and ASME Sec IX.
6. Correctly program housekeeping codes for processes used.
7. Have robots perform operations with 100% accuracy.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See counselor for details.
2. Safety glasses are required in labs. If prescription glasses are required, allow a minimum of 90 days.
3. A hand calculator capable of trigonometric functions is recommended for 442-324; the cost is approximately $20.
4. Students are required to have an arc welding helmet, oxy-acet goggles, chipping hammer and welding gloves (leather); the cost is approximately $50. Students must be prepared to bring their own equipment.
5. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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My counselor is _____. My counselor’s contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	WELDING/MAINTENANCE & FABRICATION (30-442-2) *Technical Diploma* **Offered at: Racine and Elkhorn Campuses**
	Manufacturing	Production	

	√	Course Number		Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		442-321	*	Welding / Gas Metal Arc Welding		3	2-4
		442-322	*	Welding / Shielded Metal Arc Welding		3	2-4
		442-323	*	Welding / Gas Tungsten Arc Welding		3	2-4
		442-324	*	Weld Printreading & Fab. Procedures		2	2-2
		442-334	*	Welding / Oxyacetylene		3	2-4
		801-301		Writing Principles	Prereq: 851-760 (See Note 1)	1	2-0
		804-350		Mathematics / Essential	Prereq: 834-109 (See Note 1)	2	4-0

Program Total Required ***17***

PROGRAM DESCRIPTION

Welding/Maintenance & Fabrication 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 arc); GTAW-gas tungsten arc welding (TIG, heliarc); and SMAW-shielded metal arc welding (stick, arc), including plasma arc cutting.

PROGRAM LEARNING OUTCOMES

Graduates of the Welding: Maintenance & Fabrication Technical Diploma Program should be able to:

1. Set up welding machines to operate on proper polarity.
2. Adjust welding machines to operate at various amperages for various fillers.
3. Weld flat position using proper fillers.
4. Weld horizontal position beads on plate using two diameters of E7018 electrodes.
5. Weld vertical position using proper fillers.
6. Weld overhead position using proper fillers.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 pre-algebra placement testing.

GRADUATION REQUIREMENTS

1. 17 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.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See counselor for details.
2. Safety glasses are required in labs. If prescription glasses are required, allow a minimum of 90 days.
3. A hand calculator capable of trigonometric functions is recommended for 442-324; the cost is approximately $20.
4. Students are required to have an arc welding helmet, oxy-acet goggles, chipping hammer and welding gloves (leather); the cost is approximately $50. Students must be prepared to bring their own equipment.
5. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).

OTHER INFORMATION

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My counselor is _____. My counselor's contact information is _____.

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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 Master Class Schedule 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 2010-11 academic year.

Course descriptions are merely general summaries of various courses which may be offered at Gateway Technical College during the 2010-11 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 July 1, 2010. 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.

Please check with a Gateway counselor for admissions and enrollment information.

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Multimedia p. 182

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Arts, A/V Technology & Communications	**Career Pathway ►** Visual Arts	**COMPUTER ANIMATION** **(10-810-18)** *Advanced Technical Certificate* **Offered at: Racine & Elkhorn Campuses**

√	Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
	206-101	Traditional Animation, and History		2	2-0
	204-143	Advanced Illustration	Prereq: Instructor Consent	3	2-2
	206-102	2D Computer Animation Techniques	Prereq: 206-101	2	1-2
	206-103	Character Design	Prereq: 206-101	3	2-2
	206-104	Advanced Animation/Motion Graphics	Prereq: 204-143 Coreq: 206-102	2	1-2

Program Total Required ***12***

PROGRAM DESCRIPTION

The *Computer Animation* ATC is proposed as an extension to our Graphic Communications Associate Degree. This ATC is meant to combine the creative skills of a traditional artist and the technical skills necessary to master computer animation. Animation related careers are considered a high demand growth area. Animation experts are required in many different progressions, including entertainment, web design, advertising, education, broadcasting, video game design and multimedia. The demand for content for new media is great and continues to grow.

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):

Graphic Communications (10-204-3)

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information call the campus counselor.

ADMISSION REQUIREMENTS

1. Related associate degree (official transcript required) or equivalent work experience (documented by counselor) required.

GRADUATION REQUIREMENTS

1. 12 Credits with a minimum of a 'C" or better on all courses.

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

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

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

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Information Technology	**Career Pathway ►** Programming & Software Development	**DIGITAL PHOTOGRAPHY** **(10-810-17)** *Advanced Technical Certificate* **Offered at: Racine & Elkhorn Campuses**

√	Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
	204-107	Digital Photography/ Intro		3	2-2
	204-115	Digital Photography/ Advanced	Prereq: 204-107	3	2-2
	204-128	Business of Photography		2	2-0
	204-129	Field Photography	Prereq: 204-107	2	1-2
	204-130	Studio Lighting and Tools	Prereq: 204-107	2	1-2

Program Total Required ***12***

PROGRAM DESCRIPTION

The *Digital Photography* ATC is an advanced series of courses designed to teach advanced digital photography skills. Lighting, composition, depth of field and creative approaches to photography will be studied. Digital tools will be explored as well as methods used to market skills as a photographer.

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):

Graphic Communications (10-204-3)
Technical Communications (10-699-1)
IT – Programmer / Analyst (10-152-1)
IT – Network Specialist (10-150-2)
IT – Computer Support Specialist (10-154-3)
IT – Web Developer / Administrator (10-152-3)
Marketing (10-104-3)

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information call the campus counselor.

CORE ABILITIES

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1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 counselor) required.
2. Students must verify, through official transcripts, high school, GED or HSED completion.

GRADUATION REQUIREMENTS

1. 12 Credits with a minimum of a 'C" or better on all courses.
2. Complete a photography portfolio.

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

NOTES

1. Students will need access to a mid-to-professional level digital camera. In addition a computer with CS4 Photoshop is recommended. Gateway lab equipment may be used.

OTHER INFORMATION

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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	FINANCIAL PLANNING (10-809-8) Advanced Technical Certificate Offered at: Elkhorn Campus
	Finance	Securities & Investments	

√	Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
	101-155	Financial Analysis / Management	Prereq: 101-106 Coreq: 101-122;	3	2-2
	102-122	Investments		3	3-0
	114-101	Personal Financial Planning		3	3-0
	809-195	Economics	Prereq: 838-105 (See Note 1)	3	3-0

Program Total Required ***12***

PROGRAM DESCRIPTION

Financial Planning prepares individuals to apply principles of finance and accounting to financial planning, from the perspective of the individual or family unit and the business financial manager. Employment opportunities exist in trust departments, finance companies, employee benefit departments, employer and self-employed retirement plan administration, pension fund accounting and administration, corporate business and financial analysis and planning, and treasurer/comptroller accounting/administration. This advanced technical certificate also prepares individuals for self-employment opportunities such as financial planner, accountant/manager, for individual and business clients. The certificate augments accounting, economic, microcomputer and financial mathematics skills taught in the accounting associate degree program.

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):

Accounting (10-101-1)

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information call the campus counselor.

CORE ABILITIES

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1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 counselor) required.

GRADUATION REQUIREMENTS

1. 12 Credits with an average of 2.0 or above.

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

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See a counselor for details.

OTHER INFORMATION

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EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	GAME PROGRAMMING (10-810-16) *Advanced Technical Certificate* Offered at: Kenosha Campus
	Information Technology	Programming & Software Development	

√	Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
	152-157	Game Programming I	Prereq: 152-126 (See Note 1)	3	2-2
	152-160	Game Engine Development	Prereq: 152-157	3	2-2
	152-124	Computer Programming C	Prereq: 152-126	3	2-2
	152-161	Game Programming Technologies	Prereq: 152-157	2	1-2
	204-162	Graphics for Gaming		1	1-0

Program Total Required ***12***

PROGRAM DESCRIPTION

The *Game Programming* ATC builds on the skills, knowledge, and abilities developed in the IT Programmer / Analyst associate degree, or an equivalent degree program. Students will also develop skills needed to program two and three dimensional computer games. The skills learned in this certificate are transferable to many other industries including multimedia development and animation.

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):

IT – Programmer / Analyst (10-152-1)

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information call the campus counselor.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 counselor) required.

GRADUATION REQUIREMENTS

1. 12 Credits with a minimum of 2.0 or above.

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

NOTES

1. Instructor approval is needed. See a counselor for details.

OTHER INFORMATION

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 the Master Class Schedule 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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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Transportation, Distribution & Logistics	**Career Pathway ►** Facility & Mobile Equipment Maintenance	**HEAVY DUTY VEHICLE TECHNICIAN (10-810-15)** *Advanced Technical Certificate* **Offered at: Kenosha Horizon Center**

√	Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
	412-101	Introduction to Diesel	Prereq: 602-148	3	2-2
	412-102	Diesel Fuel and Emissions	Prereq: 412-101	3	2-2
	412-103	Diesel Electrical / Electronic Systems		3	2-2
	412-104	Hydraulics / Pneumatics		3	2-2

Program Total Required ***12***

PROGRAM DESCRIPTION

Heavy Duty Vehicle Technician is an ATC designed to educate an existing automotive technician in the fundaments of diesel technology. Emphasis areas will include diesel fundamentals, basic hydraulic and pneumatic systems and basic diagnostic strategies.

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):

Automotive Technology (10-602-3)

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information call the campus counselor.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

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

ADMISSION REQUIREMENTS

1. ASE A6 Certification or Automotive Technology AAS degree.
2. Related associate degree (official transcript required) or equivalent work experience (documented by counselor) required.

GRADUATION REQUIREMENTS

1. 12 Credits with an average of 2.0 or above.

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

OTHER INFORMATION

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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	MULTIMEDIA (10-810-2) *Advanced Technical Certificate* Offered at: Racine Campus
	Information Technology	Web & Digital Communications	

√	Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
	204-120	Multimedia Survey		3	2-2
	204-146	Video Editing		2	1-2
	204-147	Multimedia Graphics and Animation		2	1-2
	204-145	Authoring Tools – Flash		2	1-2
	204-148	Multimedia Applications	Prereq: 204-120; 204-145; 204-146; 204-147	3	2-2

Program Total Required ***12***

PROGRAM DESCRIPTION

Multimedia provides computer training and design instructions for students and professionals interested in creating business presentations, teaching materials and marketing tools using multimedia. Emphasis is on Multimedia Authoring tools, which create interactive media, and slide presentations that incorporate sound and video. Students will use current technology including online services, digital cameras and video editing programs. The program will augment skills learned in the Graphic Communications and Technical Communications programs and will be of interest to graduates from Marketing, Supervisory Management, Business Management and Administrative Assistant programs.

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):

Graphic Communications (10-204-3)
Technical Communications (10-699-1)

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information call the campus counselor.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 counselor) required.

GRADUATION REQUIREMENTS

1. 12 Credits with an average of 2.0 or above.

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

OTHER INFORMATION

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 the Master Class Schedule 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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My counselor is _____. My counselor's contact information is _____.

Effective 2010/2011	Career Cluster ►	Career Pathway ►	NETWORK SECURITY (10-810-10) Advanced Technical Certificate Offered at: All Campuses
	Information Technology	Network Systems	

√	Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
	150-194	Network Security	Prereq: 150-111	3	2-2
	150-195	Security Policies & Procedures	Prereq: 150-194	3	2-2
	150-196	Security Measures / Hacking Detection	Prereq: 150-194	3	2-2
	150-197	Securing Wireless Devices & Networks	Prereq: 150-194	3	2-2

Program Total Required ***12***

PROGRAM DESCRIPTION

Network Security prepares individuals with the skills necessary to secure data environments. It provides employers with the ability to upgrade employee skills and hire new security personnel. Targeted jobs include IT Security Specialist, Information Security Specialist, IT Security Consultant, IT Network Security, and IT Security Service Technician.

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):

IT-Network Specialist (10-150-2)
IT-Computer Support Specialist (10-154-3)

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information call the campus counselor.

CORE ABILITIES

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1. Act responsibly
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3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 counselor) required.

GRADUATION REQUIREMENTS

1. 12 Credits with an average of 2.0 or above.

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

OTHER INFORMATION

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 the Master Class Schedule 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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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Information Technology	**Career Pathway ►** Programming & Software Development	**ORACLE** **(10-810-4)** *Advanced Technical Certificate* **Offered at: Racine Campus**

√	Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
	152-194	SQL Fundamentals - Oracle		3	2-2
	152-110	DBA – Part 1 – Oracle		3	2-2
	152-127	DBA – Part 2 – Oracle	Prereq: 152-110	3	2-2
	152-128	DBA – Part 3 – Oracle	Prereq: 152-110	3	2-2

Program Total Required ***12***

PROGRAM DESCRIPTION

Oracle prepares you for a career in Oracle Enterprise Database Administration. This career will allow you to organize, manage, backup, and recover data stored in Oracle databases that are available within an Intranet and/or Internet environment. Class work includes introduction to SQL, database administration, Oracle networking and backup and recovery, and Oracle performance tuning.

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):

IT-Programmer/Analyst (10-152-1)
IT-Web Developer/Administrator (10-152-3)
IT-Network Specialist (10-150-2)
IT-Computer Support Specialist (10-154-3)

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information call the campus counselor.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member 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 counselor) required.

GRADUATION REQUIREMENTS

1. 12 Credits with an average of 2.0 or above.

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

OTHER INFORMATION

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 the Master Class Schedule 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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My counselor is _____. My counselor's contact information is _____.

GATEWAY TECHNICAL COLLEGE **Effective 2010/2011**	**Career Cluster ►** Arts, A/V Technology & Communications	**Career Pathway ►** Telecommunications	**TELECOMMUNICATION ENGINEERING TECH** **(10-810-14)** *Advanced Technical Certificate* **Offered at: Racine Campus**

√	Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
	605-165	Telephony		3	2-2
	605-166	Telecom Safety and Installation		3	2-2
	605-167	Fiber Optics		3	2-2
	605-169	Network Data Transmissions		3	2-2

Program Total Required ***12***

PROGRAM DESCRIPTION

Telecommunication Engineering Technologies builds on our Electronics AAS degree program to prepare students to work as highly skilled technicians in the field of telecommunications. The curriculum is comprised of twelve credits that are aligned with the Electronic Technician Association - International's (ETA) telecommunication certification. Due to the alignment with the ETA telecommunication certification, the curriculum developed for this ATC will also prepare incumbent telecommunication technicians for the ETA telecommunication certification exam.

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):

IT-Network Specialist (10-150-2)
Electrical Engineering Technology (10-662-1)
Electronic Technician (10-605-1)

Equivalency can be earned through a combination of prior class work and/or current work experience. For equivalency information call the campus counselor.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
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6. Respect themselves and others as a member 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 counselor) required.

GRADUATION REQUIREMENTS

1. 12 Credits with an average of 2.0 or above.

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

OTHER INFORMATION

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 the Master Class Schedule 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/ACCESS EDUCATOR / EMPLOYER
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You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My counselor is _____. My counselor's contact information is _____.

Gateway Certificates of Completion

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. The following list represents those programs which will be provided by Gateway during the 2010-11 academic year. Information about specific course requirements for completing these certificates is available by contacting the identified department office.

Accounting – Elkhorn-Kenosha-Racine Campuses & Online
Small Business Accounting (90-101-1 ..... 15 Credits

Administrative Assistant– Elkhorn-Kenosha-Racine Campuses
Office Technology Basics (90-106-1) ..... 10 Credits
Office Technology Professional Growth (90-106-2) ..... 12 Credits
Office Technology Intermediate (90-106-3) ..... 12 Credits
Office Technology Advanced (90-106-4) ..... 14 Credits
Microcomputer Applications (90-106-5 ..... 12 Credits

Automated Manufacturing Systems Technician – Elkhorn Campus and Lakeview
Manufacturing Maintenance (90-628-1) ..... 10 Credits
Programming for Manufacturing (90-628-2) ..... 16 Credits

CNC Production Technician – Racine Campus
CNC Operator (90-444-1) ..... 13 Credits

Criminal Justice – Law Enforcement – Burlington Center
Law Enforcement Officer (90-504-1) ..... 16 Credits

Culinary Arts – Racine Campus
Basic Cooking Skills (90-316-1) ..... 11 Credits
Design and Service (90-316-2) ..... 15 Credits
Food and Beverage (90-316-3) ..... 18 Credits
Health Care Services (90-316-4) ..... 9 Credits
Line Cook (90-316-5) ..... 17 Credits
Management Skills I (90-316-6) ..... 11 Credits
National Restaurant Association - Professional Management Development Program (90-316-7) ..... 16 Credits

Drafting – Varied Campuses
CAD/CAM (90-606-1) (Racine) ..... 18 Credits
Electrical Drafting (90-606-2) (Racine) ..... 10 Credits
Computer Aided Drafting/Manufacturing (90-606-3) (Lakeview) ..... 12 Credits

Early Childhood Education
Pre-School Credential (90-307-6) (Racine) ..... 21 Credits
Inclusion Credential (90-307-5) (Racine) ..... 12 Credits
Graphic Communications – Elkhorn & Racine Campuses
Desktop Publishing (90-204-1) ..... 13 Credits

Health and Human Services – Racine Campus
Aspects of Disabilities (90-520-1) ..... 18 Credits
Gerontology (90-520-2) ..... 18 Credits
Medical Billings Clerk (90-509-1) ..... 12 Credits
Medical Coding Certificate (90-530-3) (also in Burlington) ..... 20 Credits
Alcohol & Other Drug Abuse (AODA) (90-550-1) ..... 24 Credits

Horticulture – Kenosha Campus
Professional Landscaping (90-001-1) ..... 15 Credits
Professional Interior Landscaping (90-001-2) ..... 15 Credits
Professional Garden Center Operations (90-001-3) ..... 15 Credits
Professional Floral Design (90-001-4) ..... 15 Credits
Professional Grounds Maintenance (90-001-5) ..... 15 Credits

Hotel – Hospitality Management – Elkhorn Campus
Hospitality Food and Beverage Certificate (90-109-1) ..... 9 Credits
Hospitality Leadership Certificate (90-109-2) ..... 10 credits

Information Technology – Elkhorn-Kenosha-Racine Campuses
Programmer/Analyst - AS/400 (90-107-2) ..... 10 Credits
iSeries Operations (90-152-1) (Kenosha only) ..... 10 Credits

Logistics – Varied Campuses
Value Stream (90-182-1) (Lakeview Center) ..... 11 Credits
Transportation and Distribution (90-182-2)
(Elkhorn, Racine & Kenosha via ITV) ..... 14 Credits

Marketing – Varied Campuses
Marketing/Sales (90-104-2) (Elkhorn/Kenosha/Racine) ..... 13 Credits
Professional Selling (90-104-5) (Kenosha) ..... 14 credits
Small Business Marketing (90-104-6) (Kenosha) ..... 12 Credits
Sports and Event Marketing (90-104-7) (Kenosha) ..... 15 Credits
Store Management (90-104-8) (Kenosha) ..... 15 Credits

Supervisory Management – Elkhorn-Kenosha-Racine Campuses & Online
Supervisory and Business Management (90-196-1) ..... 10 Credits
Intermediate Supervisory Management (90-196-2) (Racine & Elkhorn only) ... 15 Credits
Technical Communications – Racine Campus & Online
Technical Communications Specialization (90-699-1) ..... 12 Credits
Advanced Technical Communications (90-699-2) ..... 24 Credits

English as a Second Language – Elkhorn Campus
Spanish: Business Office (90-861-1) ..... 17 Credits

General Studies Transfer Agreement with UW Parkside – All Campuses
General Studies Transfer Certificate (90-800-2) ..... 30 Credits

Culinary Arts p. 52

Industrial Mechanical Technician p. 84

Gateway Apprenticeship Program

APPRENTICESHIP PROGRAM
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, 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.

CONSTRUCTION TRADES

Bricklayer

Build walls, floors, partitions, fireplaces, chimneys, and other structures with brick, precast masonry panels, concrete block, and other masonry materials.

Construction Electrician

Electrical installation of wires, cables, machinery, equipment, fixtures, switches, receptacles, and motor control equipment.

Painting & Decorating

Paint exterior and interior of houses, buildings, and factories, etc., which includes sanding, paint removal, paint mixing, woodwork, wall textures, and wall coverings.

Plumbing

Work includes both exterior and interior sanitary, storm sewer, and sewage systems, and water supply systems under and above ground. Setting and connecting all types of plumbing fixtures and appliances, including both water supply and waste systems.

Sheet Metal

Make, install, and maintain a variety of sheet metal products for homes and commercial and industrial buildings. Products include ducts for HVAC/R systems, countertops, roofs, siding, rain gutters, skylights, and outdoor signs.

SERVICE OCCUPATIONS

Childcare Specialist

Work in a childcare environment in daily care of infants, toddlers, and preschool children.

Barber/Cosmetology

Work in a salon cutting hair, styling, perming, coloring, manicuring, and giving facials, etc. for customers. Barber working in a shop cutting, styling, shaving, etc. for customers.

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 Office
Gateway Technical College
Conference Center – Kenosha Campus
3520 – 30th Avenue
Kenosha WI 53144-1690
262-564-2950

Donna Mews
262-564-2954
mewsd@gtc.edu

Sandra Brietzman
Apprenticeship Training Representative
Bureau of Apprenticeship Standards
Gateway Technical College
Kenosha Conference Center
3520 – 30th Avenue Rm. C130
Kenosha WI 53144-1690
262-564-3210
sandra.brietzman@dwd.wisconsin.gov

Articulation to 4-year (transfer)

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 reading, 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 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 offices, to determine current arrangements. Graduates interested in transferability of credits earned through an associate degree program should contact a Gateway counselor 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 externally. Gateway currently articulates with 43 colleges and universities in allowing students to transition from Gateway Technical College to another institution in a smooth and seamless manner. Students can take advantage on online learning opportunities from many higher education partners to transfer their credits and complete bachelor's degrees without leaving the Gateway campus. In addition, Upper Iowa University has an articulation agreement that will allow Upper Iowa University to teach courses leading towards a bachelor's degree in several program areas. These courses are taught by Upper Iowa University at the Elkhorn and Racine campuses and the Burlington Center.

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

Alverno College
Aurora University – George Williams College
Capella University
Cardinal Stritch University
Carroll University
Carthage College
College of Lake County
Columbia College
Concordia University Wisconsin
DeVry Institute of Technology
Embry-Riddle Aeronautical University
Franklin University
Kaplan University
Lakeland College
Marian College
Marquette University
McHenry County College
Milwaukee School of Engineering
Mount Mary College
Pennsylvania College of Technology
Ottawa University
Robert Morris College
Rock Valley College
Silver Lake College
Southern Illinois University/Carbondale
St. Cloud State University
Trinity International University
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
Utah Valley State College
Viterbo College

JACAP Agreed Statement

UW/TECHNICAL COLLEGE SYSTEM UNIFORM POLICY STATEMENT ON CREDIT TRANSFER

Students enrolled in the Wisconsin Technical College System who wish to continue their education in the UW System may be eligible to transfer credits toward their bachelor's degree in the following ways:

- Students enrolled in the Associate of Arts/Science program at Madison Area Technical College, Milwaukee Area Technical College, or Nicolet Area Technical College may transfer up to 72 credits toward their degree.
- Students who have successfully completed an Associate of Applied Arts/Science Degree in the Technical College System are eligible to transfer up to 30 credits of General Studies coursework, depending on the UW institution.
- Students who have successfully completed an Associate of Applied Arts/Science Degree may be eligible to transfer certain technical support and/or occupational credits when there is a direct relationship between a Technical College Associate Degree program and a program offered at at University of Wisconsin System institution.
- Students transferring from the Technical College System may earn credit by earning appropriate scores on national standardized examinations (e.g., College Level Examination program) or on examinations developed by the University of Wisconsin System transfer institution.

For more information about these transfer opportunities, students should consult with their Technical College advisors or the Admissions Office at a University of Wisconsin System institution.

University of Wisconsin PARKSIDE

General Studies Transfer Certificate

Transfer agreement between Gateway Technical College and University of Wisconsin—Parkside. Effective May 19, 2009.

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.

www.gtc.edu/genstudiescert

For more information and to apply, contact a Gateway counselor.

GATEWAY TECHNICAL COLLEGE

Reciprocity – instate tuition

Rock Valley, McHenry & Gateway District

Gateway Programs Available to McHenry County Residents

Programs Available to Rock Valley, McHenry, and Gateway District Residents See Reciprocity Agreements for the listed colleges below.

Rock Valley Programs Available to Gateway Residents

Automotive Service (A.A.S., Certificate)
Aviation Maintenance (A.A.S., Certificate)
Building Construction (A.A.S., Certificate)
Child Care (A.A.S., Certificate)
Electronic Engineering Tech (A.A.S., Certificate)
Fire Science (A.A.S., Certificate)
Fluid Power (Certificate)
Human Services (A.A.S., Certificate)
Management (A.A.S., Certificate)
Nursing (A.A.S., Certificate)
Office Technology Systems (A.A.S., Certificate)
Medical Office (A.A.S., Certificate)
Legal Office (A.A.S., Certificate)
Quality Engineering (A.A.S., Certificate)
Respiratory Care (A.A.S., Certificate)
Small Business Management (A.A.S., Certificate)
Aeronautics – Pilot Training (A.A.S.)
Air Conditioning, Heating and Refrigeration Technology (A.A.S.)
Information Technology – Network Specialist (A.A.S.)
Culinary Arts (A.A.S.)
Graphic Communications (A.A.S.)
Health Information Technology (A.A.S.)
Horticulture (A.A.S.)
Interior Design (A.A.S.)
Physical Therapist Assistant (A.A.S.)
Technical Communications (A.A.S)

Gateway Programs Available to McHenry County Residents

Aeronautics – Pilot Training (A.A.S.)
Automated Manufacturing Systems Technician (A.A.S.)
Air Conditioning, Heating & Refrigeration Technology (A.A.S.)
Barber/Cosmetologist (Diploma)
Architectural—Structural Engineering Technician (A.A.S.)
Dental Assistant (Diploma)
Graphic Communications (A.A.S.)
Human Services Associate (A.A.S.)
Interior Design (A.A.S.)
Medical Assistant (Diploma)
Physical Therapist Assistant (A.A.S.)
Surgical Technology (A.A.S.)

McHenry Programs Available to Gateway Residents

Business Management (A.A.S.)
Developmental Disability Aide (Certificate)
Electronic Engineering Technician -- FAA Option (A.A.S.)
EMT – Ambulance (Certificate)
EMT – Paramedic (A.A.S.)
EMT – Paramedic (Certificate)
International Business (Certificate)
Machinist Training (Certificate)
Manufacturing Management (A.A.S.)
General Studies courses (non-degree credit)

Gateway Programs Available to Lake County Residents

Aeronautics—Pilot Training (A.A.S.)
Automated Manufacturing Systems Technician (A.A.S.)
Barber/Cosmetologist (Diploma)
Dental Assistant (Diploma)
Electromechanical Technology (A.A.S.)
Graphic Communications (A.A.S.)
Health Unit Coordinator (A.A.S.)
Interior Design (A.A.S.)
Medical Assistant (Diploma)
Physical Therapist Assistant (A.A.S.)
Surgical Technology (A.A.S.)

Lake County Programs Available to Gateway Residents

Alcohol Substance Abuse and Addictive Disorders (A.A.S.)
Automotive Collision Repair (Certificate)
Chemical Tehcnology (A.A.S. or Certificate)
Civil Technology Environmental Option (A.A.S.)
Electrician Apprenticeship (A.A.S.)
Machine Tool Trades (A.A.S.)
Medical Billing Specialist (Certificate)
Medical Imaging (A.A.S.)
Tool and Moldmaker (Certificate

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 diagnosingpest 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.

001-107
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, constructionof dish gardens and terrariums.

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 conservationand how to attract wildlife. Labs include drawing plans and blueprinting.

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.

001-122
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.

001-128
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.

001-130
Landscape Plants I **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 II **3.00**

Continued emphasis on identification and evaluation of landscape plants with emphasis on evergreen landscape materials.

001-135
Plant Propagation **3.00**

Provides experience in propagation of plants from seed, cuttings, grafting, and tissue culture. Studies equipment and chemicals used in industry. Labs include hands on experience in all methods of propagatingplant material.

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.

001-140
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.

001-143
Herbaceous Plants **3.00**

Learn to identify and care for of 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.

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.

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.

001-155
Garden Center Operations **3.00**

Covers the establishment and maintenance of a retail garden center. Course content includes merchandising/

promotion strategies and the selection/ maintenance of quality plant materials and related merchandise. Labs include hands-on experiences and field trips.

001-171
Horticulture Field Study 3.00

Hands on learning! Work with latest plant introductions from international plant breeders. Learn to identify a wide variety of annuals and perennials. Learn about the care and culture of annual and perennial plants. Design and install beds in Gateway's Learning Garden and Horticulture Center. Assist in evaluating 'trial garden' plants for vigor and garden performance. Learn professional techniques used by botanic gardens.

001-176
Horticulture Internship 3.00

Elective for approved work experience in a Horticulture establishment. Provides practical experience in a variety of horticulture businesses. Students are advised by and responsible to the horticulture staff to whom they are assigned.

001-177
Floral Design III3.00

This course is designed for the advanced floral designer. You will explore the most advanced techniques in weddings, sympathy, and contemporary designs.

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.

001-179
Landcadd, Introduction to 3.00

This course provides the horticulture student with the skills and knowledge to draw landscape plans with a computer aided design (CAD) program. The concepts of the LandCADD software program will be discussed and an understanding of the basic commands of AutoCAD and the site planning module of LandCADD will be covered. Site planning, site analysis, planting design, plant selection, and construction details will be demonstrated and hands-on exercises will be completed. An introductory course in AutoCAD is a prerequisite.

090-300
Farm Business/Operating the 3.00

Emphasizes management skills and concepts necessary for first year student. Student's entire farming operation is assessed and plans developed for future needs, goals and objectives. Special emphasis on establishing and recording farm business and family goals, organizing and maintaining farm business records, interpreting and analyzing the records to assist in making sound farm business management decisions.

090-306
Soils Management 3.00

Prepare and implement a land use plan, take and understand soil testing procedures and reports. Make and implement fertilizer recommendations and budgets. Covers application of farm manure, chemicals, soil conservation practices and the management and safe use of farm machinery and equipment. Analysis of the farm business and planning of cropping strategies to meet the farmers need.

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.

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 basicfederal 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 Portfolio Development 2.00

In this program capstone course, the student will refine and compile a personal portfolio (from prior program course assignments) that demonstrate mastery of the program's outcomes and can be used as a job interview tool. 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.

101-106
Accounting Spreadsheet Applications 3.00

This course covers intermediate and advanced spreadsheet topics. The student will develop and edit business-related worksheets and charts, including linking worksheets and workbooks. The student will also work with 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 Microsoft Office User Specialist (MOUS) certified in Excel at the Core of Expert level.

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. The accounting cycle - analyzing, journalizing, posting, adjusting entries, worksheet preparation, financial statements, and closing entries - will be covered. Details of accounting for receivables, payables, cash, subsidiary ledgers, corporate organization, stock transactions, and dividends will be studied. Accounting Principles illustrates accounting methods for service and merchandising firms, partnerships, and corporations. Two comprehensive practice sets will be required.

101-121
Intermediate Accounting I **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, and current and long-term liabilities, including time value of money concepts. Students will be expected to use Excel for preparation of designated assignments and will submit an electronic project.

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, become familiar with FASB's full disclosure requirements, and prepare consolidated financial statements. Students will be expected to use Excel for preparation of designated assignments and will submit a comprehensive electronic project.

101-124
Auditing **3.00**

This course will cover the theory, procedures, and standards of auditing with emphasis on evaluation and review of internal control. Students will examine and evaluate accounting records to provide data to support anopinion regarding the fairness and reliability of the records. Emphasis will be on generally accepted auditing standards (GAAS).

101-126
Accounting Spreadsheet Applications **2.00**

This course covers intermediate and advanced spreadsheet topics. The student will develop and edit business-related worksheets and charts, including linking worksheets and workbooks. The student will also work with 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 Microsoft Office User Specialist (MOUS) certified in Excel at the Core or Expert level.

101-127
Accounting Database Applications **2.00**

This course is designed to introduce the student to a database package that can be used to generate reports containing accounting information. The student will learn the basics of database software, including tables, queries, and reports as they relate to the revenue, purchases, production, and payroll cycles.

101-131
Management Accounting **4.00**

This course covers the fundamentals of managerial 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, costing joint and by-products, and just-in-time manufacturing 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.

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 manualpreparation of federal tax forms.

101-152
Accounting for Government and Nonprofit Entities **3.00**

The purpose of this course is to apply the objectives of the GASB to general purpose financial reporting for government and nonprofit organizations, in order to provide timely data for the administrators and users of these organizations. Specific techniques for reporting the resources and uses of funds are included, in addition to financial statement presentation and budgeting applications.

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.

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 merger techniques,apply working capital management techniques, develop cash budgets, utilize breakeven analysis, and develop pro forma financial statements. A corporate annual report project is required using spreadsheet and word processing software.

101-158
Accounting Capstone **4.00**

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. This course will prepare students to take the ABA (Accredited Business Accountant) exam. The ABA is a national certification supported by the National Society of Accountants. It is a certification designed for accountants with associate degrees. The capstone course will provide an assessment opportunity aimed at achieving national certification.

101-184
Business Finance and Budgeting **3.00**

In Business Finance and Budgeting, the learner applies the skills necessary to achieve an understanding of the fiscal/ monetary aspects of business. Each learner will demonstrate application of business types, cycles, forecasting, budgeting, expense control, and financial statement interpretation relevant to the supervisor as a non-accountant.

102-101
Banking/Principles of **2.00**

Comprehensive introduction to services offered by banking industry. Essential for new banking personnel. Includes material on bank accounting, pricing, profitability, personnel and security functions ofthe bank.

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.

102-137T
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**

This course establishes an opportunity for the 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 an MBA consultant to complete a project to the parameters mutually identified by the business and the MBA consultant. Evaluation of the student's performance will be a cooperative effort between the MBA Consultant and the Instructor(s).

102-156
International Business **3.00**

A broad introductory course on the fundamentals of international trade. An overview of business in the international setting includes different involvements and structures of international business, global vs. multinational strategies, barriers to international business, legal frameworks, multinational economic communities, international personnel, marketing management and financial requirements for a global business.

102-158
International Business Cultures and Practices **2.00**

An overview of selected world cultures that influence business on a daily basis. Students will examine the obstacles in doing business transactions in a foreign market, modes of performing global business, and international business ethics.

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.

102-170
Finance/Principles of **3.00**

This course serves as an introduction to financial markets, intermediation, institutions and management. It includes the scope of the financial system and its function. Topics include: the markets in which funds are traded, the institutions that participate in and aid the flow of funds, the basic financial instruments that trade in the markets, and the principles of financial management that guide participants in making sound financial decisions.

102-182
Business Operations **3.00**

In Business Operations, the learner assesses the role of business, its internal structure, and relationship to the external environment. Each learner analyzes the supervisor's role in the functions of business planning, information systems, operations management, information technology, marketing, and how they drive 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.

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 afield 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.

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 formsand reports.

103-107
Microsoft Access III **1.00**

For advanced-level users of Microsoft Access. Students will create queries to crosstab, update, list top values, and join tables for data entry forms and reports; create a menu-driven application; and write macros to automate tasks.

103-108
Office 2007, Transition to **1.00**

Microsoft Office 2007 introduces many new features to help you get your work done more efficiently and effectively. If you're familiar with Office 93, 95, 2000, 2003 (Word, Excel, Access, PowerPoint) and want to upgrade to this new version of 2007, you'll want to take this class! This new version of Office presents the biggest change in features in the last 10+ years. Note: This class is not intended for students who are new to working with computers and software.

103-109
Windows Operating Systems and Concepts **1.00**

This is the beginning course for students wishing to learn the Windows operating system. Creating and manipulating files and programs in this operating environment will be emphasized.

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.

103-116
Microsoft Visio **1.00**

This course will enable the student to communicate effectively with easy-to-assemble drawings and diagrams, create organizational charts and flowcharts, draw technical schematics and annotate CAD drawings, and manually and automatically work on network, software, and database design.

103-118
WordPerfect for Windows **1.00**

Introduction to word processing concepts. The student will learn to create, edit, format, and print documents. Editing will include insertion/ deletion of text, moving text within a document, saving and renaming documents. Formatting will include text enhancements, such as bolding, underlining, italicizing, using bullets, tabs, indents, use spell checker and page set-up features. Recommended that students have a basic knowledge of the Windows operating environment and keyboarding skills prior to enrolling in this class.

103-119
WordPerfect for Windows II **1.00**

Intermediate level word processing. The student will learn to manipulate multiple page documents, merge documents, print labels, create/format tables, use grammar checker and thesaurus features, bookmarks and styles, and document templates.

103-123
Microsoft Word III **1.00**

This course will cover merging, sorting, advanced editing techniques, file management and special document features.

103-125
Web Page Development **1.00**

Using hypertext markup language (HTML) to develop Internet World Wide Web pages along with other Internet resources and development tools.

103-132
PhotoShop I **1.00**

Introduction to PhotoShop image editing software in the Windows environment. Students learn to create and edit digital images. Topics covered will be the basics of PhotoShop including the PhotoShop interface, scanning, making selections, layers, and graphic formats. Macintosh users may also benefit from this course.

103-133
Microsoft Outlook **1.00**

Outlook is a software application that

allows you to send and receive electronic mail, maintain schedules, calendars, contacts, and tasks.

103-134
Microsoft Windows NT Workstation **1.00**

For students wishing to learn Windows NT workstation operating system concepts. Create and manipulate files and programs within the workstation environment.

103-135
Microsoft Project Manager **1.00**

This course will provide many new and improved features that will help you schedule, track, and communicate your project information faster and more efficiently than ever.

103-137
Windows NT **1.00**

Beginning course for students wishing to learn the Windows NT workstation operating system concepts. Creating and manipulating files and programs will be emphasized.

103-138
FrontPage - Beginning **1.00**

This is the entry-level course for creating, maintaining and publishing a website using web authoring software.

103-139
FrontPage - Advanced **1.00**

This course takes the user of FrontPage to the next level of proficiency. The participant will use FrontPage themes in a web site with shared borders, use advanced editing and publishing features, and incorporate forms and use appropriate forms handling.

103-140
Preparing Graphics for the Web Using Image Ready **2.00**

Students will learn the basic skills and knowledge for creating/handling basic web graphics using industry-standard software. Basic file formats, graphics handling, and graphics editing will be covered in this course.

103-161
Access Database for the Web **2.00**

This course is an introduction to e-commerce and Access data access pages. Participants will create data access pages for data entry, create data access pages for interactive reporting, install a web server, and publish web pages. This course is also an introduction to other web-enabled database technologies.

103-164
Microsoft Publisher I **1.00**

This course is designed to teach the fundamentals of Microsoft Publisher. The course will expose students to practical examples of desktop publishing. It will acquaint students with the proper procedures to create professional quality publications.

103-170
MS Windows **1.00**

Class for DOC. Provides a basic overview of Microsoft Windows XP operating system. Focuses on window concepts and terminology. Learners manipulate icons and individual window applications. Learners develop skills in mouse input, working with windows and icons, using Windows Explorer, files and folders manipulation, and printer controls.

103-171
MS Word **2.00**

Class for DOC. Introduces word processing applications, functions, and features. Emphasizes creating, editing, saving and retrieving files, applying wizards and templates, applying watermarks, and using spell check.Produces documents with tables and charts generated from the tables. Windows-based software is used.

103-172
MS Excel **2.00**

Class for DOC. Introduces spreadsheet applications, functions, and features. Emphasizes creating, editing, saving and retrieving files, and applying formulas and managing large worksheets. Produces charts, amortization schedules, and data tables and incorporates analysis tools.

103-173
MS PowerPoint **2.00**

Class for DOC. This software facilitates the design and creation of presentation graphics in the form of text, free-from drawings, animation, organizational charts, and tables. Learner will produce interactive documents with sound and other enhancements.

103-174
MS Access **2.00**

Class for DOC. Introduces the learners to basic database functions. Participants design and create a database; enter, sort, and retrieve data; and produce reports.

103-175
MS Integration **1.00**

Class for DOC. Provides hands-on experience integrating documents from/to database, word processing, presentation graphics and spreadsheet software programs

103-199
PC Basics/MS Office **3.00**

This course introduces students to the use of a PC. Through hands-on practice, students will manage files, communicate using e-mail, access the Internet and learn ethical practices, use word processing, spreadsheet, and presentation software. Microsoft Office 2007 software is used throughout the course. Basic keyboarding skills are recommended. Student must have access to Microsoft Office 2007. No prior version of Microsoft Office will work with this offering.

103-199T
PC Basics/MS Office **3.00**

This course introduces students to the use of a PC. Through hands-on practice, students will manage files, communicate using e-mail, access the Internet and learn ethical practices, use word processing, spreadsheet, and presentation software. Microsoft Office 2007 software is used throughout the course. Basic keyboarding skills are recommended. Student must have access to Microsoft Office 2007. No prior version of Microsoft Office will work with this offering.

104-101
Marketing Principles **3.00**

This course helps students understand the scope of marketing and the importance of marketing in our economy. Changes and trends in the consumer goods market of the United States and foreign markets. are covered. Consumer behavior is examined as well as retailing and wholesaling structures.

104-103
Marketing Careers **1.00**

An introduction to all marketing careers is emphasized in this course. Marketing careers for both consumer and business-to-business marketing are analyzed with real-world applications.

104-104
Selling Principles **3.00**

This course covers retail, business, industrial, and direct selling procedures which involve prospecting, pre-approaching the customer, discovering the customer's wants and needs, demonstrating the product, answering questions, meeting objections, closing the sale, and suggestion selling.

104-105
Promotion Principles I **3.00**

Advertising media and the institutions of advertising agencies, retail advertisers and general advertisers. Advertising media methods as they relate to goals. Creation of media advertising: newspaper,magazine, radio, television, and direct mail. The principles of copy layout, illustration and printing. The concepts of sales promotion, publicity, public relations, and visual merchandising.

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.

104-112
Mastering Selling Skills-OMC **1.00**

Analyze customer's motivations and expectations in the selling/buying process.

104-113
Mastering Merchandising and Display-OMC **1.00**

This course covers the strategies to enhance marketing efforts utilizing merchandising and display in the showroom.

104-114
Selling Techniques **2.00**

Emphasis is placed on selling techniques. This includes the process used to plan, to make sales presentations, to handle sales resistance, to close a sale, and to implement the proper follow-up of the sale.

104-119
Visual Merchandising **3.00**

Merchandising display and point of purchase advertising. The principles of display, harmony, rhythm, proportion, balance, emphasis and color. Creative efforts through the production of several displays. Showcard and sign production.

104-120
Consumer Global Marketing **3.00**

An analysis of the marketing of products and services to the ultimate consumer with emphasis on consumer markets, retail, and new trends in consumer behavior and satisfaction globally.

104-126
Business Marketing I **3.00**

Process and systems analysis, inventory planning and control, quality control, marketing cost analysis, marketing plans all related to industrial goods.

104-127
Retailing **3.00**

An overview of retailing, trends, consumer and location analysis. Study of the organizational structure through human resources, merchandising, advertising and promotion, control and operations.

104-127T
Retailing **3.00**

An overview of retailing, trends, consumer and location analysis. Study of the organizational structure through human resources, merchandising, advertising and promotion, control and operations.

104-134
Marketing Internship **3.00**

This course provides the student with an opportunity to work in a marketing environment. The student will commit to 12 hours per week with an instructor and job contact. Competencies will vary, depending upon the work site.

104-150
Marketing Professional Development **1.00**

Visual poise, importance of nutrition and exercise, make-up and wardrobe selection for business are explored. Professional development skills, resume writing and employment interviewing are emphasized.

104-161
Selling Principles/Advanced **3.00**

Student will be made aware of various sales careers and necessary qualifications. Time management, territory planning, motivation, telemarketing, direct marketing and negotiating for the salesperson will be studied. Sales meetings and practical sales demonstrations will be presented by the students.

104-169
Management/Merchandising **3.00**

View of the store buyer or manager as relates to consumer, subordinates, resources and management. Store image, sales records, merchandise planning, market trips, and merchandising math principles are applied.

104-170
Business Purchasing **3.00**

An understanding of industrial purchas-

ing 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.

104-171
Credit Procedures **3.00**

Concepts and instruments necessary to operate a credit system. Credit is an essential function of marketing and the application of new marketing concepts and techniques in the credit system are stressed.

104-172
Marketing Management **3.00**

Decision-making activities involved in marketing functions through projects, simulation and case studies.

104-173
Marketing Research **3.00**

This course covers the principles and practices of research. Students conduct research in the marketing field related to possible future employment. They draw upon previous knowledge in selecting the area of research and developing it. The collected data is organized into a written document.

104-191
Internet Business Applications **1.00**

This course will help participants gain the skills necessary to be able to evaluate the growing number of opportunities for both entrepreneurs and existing businesses which are becoming availableon the World Wide Web daily. Internet compatible software and hardware will be discussed, as well as budgets, marketing, and various advertising strategies. Opportunities such as Job Searching, Information Resources, Publications, and Career Exploration for entrepreneurs, small business managers, and others in the field of management will be explored.

104-193
Technical Customer Service **2.00**

This course teaches the importance of customer service in the telecommunication field and includes such topic areas as dealing with difficult people, stress management and workers legal responsibilities.

104-194
International Marketing **3.00**

The course is a study in the marketing of goods and services at the international level. The international uncontrollable variables of marketing are analyzed along with emphasis on market development, marketing research, product planning, international distribution, promotion, and pricing.

104-196
Export Techniques/ Documentation/Payment **2.00**

In-depth study of export documentation including the actual preparation of various documents normally used in international trade. Follows the flow of documentation from shipper to forwarder to bank. Complete review of letters of credit and related documents including an explanation of the various types of credit. Government laws and regulations that affect the flow of goods will also be reviewed.

104-198
E-Commerce/Marketing on the Internet **3.00**

This course provides the student with a basic understanding of the components utilized in this technology. It examines how businesses integrate target marketing, market research, and the marketing mix elements onto the internet. The student will study both consumer and business-to- business situations affected by the intranet and extranet. Public policy, infrastructures, and payment systems for e-commerce are also analyzed and the individual is required to develop an e-commerce/internet marketing strategy plan.

104-307
Sales/Fundamentals of **1.00**

Basic skills in selling are stressed: the steps of the sale, merchandise information, selling problems and development of the sales personality.

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.

105-110
Mathematics of Finance **2.00**

Mathematical emphasis is placed on application to problems in finance, accounting, economics, spreadsheet and graph design and analysis, including use of financial calculators.

105-302
Business Arithmetic **2.00**

The arithmetic needed for recordkeeping, selling and general clerical occupations. Rules for checking for accurate answers, percentage and fractions emphasized.

105-305
Business Arithmetic/Calculators **3.00**

Addition, subtraction, multiplication, and division of whole numbers and decimals. Work problems finding the base, rate and percentage. Procedures for checking work and estimating answers. Touch method of addition and subtraction on ten-key electronic calculators. Basic arithmetic procedures and business problems solved on electronic calculators.

105-320
Records Control **2.00**

Maintain production records and manage magnetic media using standard records control procedures along with the basic filing rules.

105-331
Microcomputers/Orientation to **1.00**

Provides a hands-on setting for the individual to learn how to mechanically operate micro input, screen display, information updating and use of disk memory.

106-001
Computer Applications **1.00**

This course provides an introduction to basic computer functions and applications. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. The course emphasizes the use of common software packages, operating

systems, file management, word processing, spreadsheet, internet, and electronic mail.

106-002
Publication Design for the Office 3.00

Students will create professional newsletters, brochures, flyers, forms, business cards, and other business publications using layout and design software. Students will select appropriate designs from the catalog.

106-003
Word Processing for the Office 4.00

This class covers the specialized features of word processing software. Students develop expertise in the creation of business documents through the use of operational and text-editing features,such as document merges, newspaper and parallel columns, tables, and graphics. Proofreading will be developed through the production of business documents that have been transcribed from recorded voice dictation.

106-004
Advanced Office Technologies 3.00

This course familiarizes students with software used to manage stand alone projects as well as planning and tracking collaborative projects, applying technologies to specific meeting and event planning, entering information on a personal digital assistant and desktop computer, and maintaining office equipment, computer hardware, and software.

106-040
Court Reporting Speed Maintenance 2.00

Court Reporting Speed Maintenance provides the student with the ability to maintain and/or increase machine shorthand speed and accuracy.

106-042
Four-Voice 1.00

Four-Voice expands the students ability to write four-voice testimony from videotaped material dictated at a minimum speed of 180 wpm for five minutes with a minimum 95 percent accuracy and to prepare salable transcripts.

106-043
Judicial Reporting I Lab 2.00

Judicial Reporting I expands the learner's ability to write two-voice testimony at 160 wpm, write Literary at 150 wpm, and write Jury Charge at 160 wpm for three minutes with 95 percent transcription accuracy.

106-043A
Judicial Reporting I Lab A 1.00

Judicial Reporting I Lab A is designed for Testimony I students. This course will expand the learner's ability to write two-voice testimony at 160 wpm for three minutes with 95 percent transcription accuracy.

106-043B
Judicial Reporting I Lab B 1.00

Judicial Reporting I Lab B is designed for Literary I and/or Jury Charge I students. This course will expand the learner's ability to write literary at 150 wpm and jury charge at 160 wpm for three minutes with 95 percent transcription accuracy.

106-044
Realtime Reporting Orientation 1.00

Realtime Reporting Orientation prepares the learned to execute laptop computer functions, create electronic files, send documents electronically, develop a time management plan, assess personal skills and characteristics, evaluate the requirements for occupations within the career field, and state the requirements to become a certified realtime reporter and a registered professional reporter.

106-046
Literary II Lab 1.00

Literary II Lab expands the learner's ability to write literary material dictated at a minimum speed of 180 wpm for five minutes, to transcribe at least three timings with a minimum of 95 percent accuracy, and to prepare salable transcripts.

106-047
Jury Charge II Lab 1.00

Jury Charge II Lab expands the learner's ability to: write jury charge material dictated at a minimum speed of 200 wpm for five minutes, transcribe at least three timings with a minimum of 95 percent accuracy, and prepare salable transcripts.

106-048
Testimony I Lab 1.00

Testimony I Lab prepares the learner to: write, transcribe, and read back two-voice dictation; maintain a realtime dictionary; prepare salable transcripts from two-voice dictation; increase writing speed to 160wpm at a minimum of 95% accuracy; write Latin and French words used in the legal system; increase vocabulary to include words used in Congressional records; and write non-dictated punctuation.

106-059
Legal Terminology 1.00

Legal Terminology is an alternative delivery course designed to provide a background in basic legal terminology. Included are the correct spelling, pronunciation, and definition or the legal terms in this course. Thirteen areas of civil and criminal law are covered as well as terms dealing with the court, legal system, and litigation procedures. This class is intended for Judicial Reporting students.

106-084
English for Realtime Reporters 1.00

English for Realtime Reporters enhances the learner's ability to use proper English grammar, spelling, punctuation, capitalization, and vocabulary techniques in the transcription of the spoken word.

106-105
Office Essentials 1.00

This course prepares the participant in basic office concepts including the Windows environment, incoming and outgoing communications, calendaring, office safety, and computer use for the collection of data.

106-108
Realtime Reporting Speed Development 3.00

Realtime Reporting Speed Development further develops skills acquired in Realtime Reporting II on literary, jury charge, and testimony material, beginning at 120 wpm. Scheduled during the summer term, students must pass three 3-minute timings in two of these categories.

106-112
Records Management 2.00

This course presents guidelines and procedures for controlling business information from its creation through distribution, retention and retrieval, storage, preservation, protection, and final disposition.The main systems include alphabetic, numeric, and subject filing.

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.

106-120
Literary I **2.00**

Literary I prepares the learner to write literary material dictated at a minimum speed of 150 wpm for three minutes, to transcribe at least three timings with 95 percent accuracy, and to prepare salable transcripts.

106-120A
Literary I - Lecture **1.00**

Literary I - Lecture prepares the learner to write literary material dictated.

106-120B
Literary I - Lab **1.00**

Learners transcribe literary material with a minimum of 95% accuracy and prepare salable transcripts.

106-121
Literary II **2.00**

Literary II expands the learner's ability to write literary material dictated at a minimum speed of 180 wpm for five minutes, to transcribe at least three timings with a minimum of 95 percent accuracy, and to prepare salable transcripts.

106-123
Testimony II **4.00**

Testimony II expands the student's ability to write two-voice testimony at 225 wpm and transcribe with 95 percent accuracy a minimum of three five minute, two voice timings at 225 wpm.

106-123A
Testimony II Lecture **3.00**

Testimony II Lecture expands the student's ability to write two-voice testimony at 225 wpm and transcribe with 95 percent accuracy a minimum of three five minute, two voice timings at 225 wpm.

106-123B
Testimony II Lab **1.00**

Testimony II Lab expands the student's ability to write two-voice testimony at 225 wpm and transcribe with 95 percent accuracy a minimum of three five minute, two voice timings at 225 wpm.

106-124
Realtime Reporting II **5.00**

Realtime Reporting II prepares the learner to write multi-syllabic words, punctuation and special symbols, short forms and phrases, prefixes and suffixes, numbers, frequently used words and phrases, contractions using the Z-rule, and the 'Flagged Alphabet,' while applying realtime conflict elimination principles, applying realtime theory, and writing dictation using a realtime theory.

106-124A
Realtime Reporting II Lecture **4.00**

Realtime Reporting II Lecture prepares the learner to write multi-syllabic words, punctuation and special symbols, short forms and phrases, prefixes and suffixes, numbers, frequently used words and phrases, contractions using the Z-rule, and the 'Flagged Alphabet.' Students apply realtime conflict elimination principles and realtime theory and write dictation using realtime theory.

106-124B
Realtime Reporting II Lab **1.00**

Realtime Reporting II Lab prepares the learner to write multi-syllabic words, punctuation and special symbols, short forms and phrases, prefixes and suffixes, numbers, frequently used words and phrases, contractions using the Z-rule, and the 'Flagged Alphabet.' Students apply realtime conflict elimination principles and realtime theory and write dictation using realtime theory.

106-125
Medical Reporting **1.00**

Medical Reporting expands the student's ability to develop skill in writing medical testimony from dictated material at a minimum speed of 180 wpm for five minutes with 95 percent accuracy and preparing salable transcripts.

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.

106-128
Jury Charge I **2.00**

Jury Charge I prepares the learner to write jury charge material dictated at a minimum speed of 160 wpm for three minutes, to transcribe at least three timings with a minium of 95 percent accuracy, and to preparesalable transcripts.

106-128A
Jury Charge I - Lecture **1.00**

Jury Charge I - Lecture prepares the learner to write jury charge material dictated.

106-128B
Jury Charge I - Lab **1.00**

Learners transcribe jury charge material with a minimum accuracy of 95% and prepare salable transcripts.

106-129
Jury Charge II **2.00**

Jury Charge II expands the learner's ability to: write jury charge material dictated at a minimum speed of 200 wpm for five minutes, transcribe at least three timings with a minimum of 95 percent accuracy, writeand read back current events dictation, and prepare salable transcripts.

106-132
Realtime Reporting Technology **2.00**

Realtime Reporting Technology prepares the learner to use computer-assisted transcription and realtime software, build personal dictionaries, read, translate, and edit transcripts, and review realtime translation procedures in court, depositions, captioning, and educational environments.

106-134
Skill Building II **1.00**

An intermediate course designed to help students who already have basic keyboarding skills improve their speed and accuracy.

106-135
Skill Building III **1.00**

An advanced course designed to help students who already have basic keyboarding skills improve their speed and accuracy.

106-137
Keyboarding Applications **3.00**

This course is designed to develop keyboarding skills and basic document formatting techniques using word processing software.

106-137A
Keyboarding Applications **2.00**

This course is designed to develop basic document formatting techniques using word processing software.

106-137T
Keyboarding Applications **3.00**

This course is designed to develop keyboarding skills and basic document formatting techniques using word processing software.

106-138
Automated Office Applications I **3.00**

Automated Office Applications I is designed to develop an understanding of computer terminology, hardware, software, an operating system, and spreadsheet and database software.

106-142
Automated Office Applications II **3.00**

This course is the second in the sequence of business application courses for Administrative Assistant students. Emphasis will be on more advanced features of spreadsheets and databases.

106-149
Judicial Reporting Internship **1.00**

Judicial Reporting Internship prepares the learner to: write machine shorthand verbatim for a minimum of 45 hours of actual writing time in the courtroom, classroom, and deposition environment under the supervision of a working reporter; transcribe a minimum of 80 salable transcript pages; prepare a resume and cover letter for a judicial reporting position; and pass a mock RPR written knowledge test.

106-152
Automated Office Applications III **3.00**

A capstone course integrating the aspects of word processing, database, spreadsheet, graphics, electronic mail, and calendaring applications.

106-161
Realtime Reporting I **5.00**

Realtime Reporting I prepares the learner to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes.

106-161A
Realtime Reporting I Lecture **4.00**

Realtime Reporting I Lecture prepares the learner to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi- consonant words, punctuation and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes.

106-161B
Realtime Reporting I Lab **1.00**

Realtime Reporting I Lab prepares the learner to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes.

106-173
Judicial Reporting Procedures **3.00**

Judicial Reporting Procedures introduces the learner to judicial reporting procedures for which reporters are responsible in the courtroom, deposition, and realtime reporting environments, including preparing salable transcripts, researching legal citations, and developing professional development plans.

106-178
Office 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.

106-184
Word Processing II **3.00**

This class covers the specialized features of word processing software at an intermediate level and an understanding of the computer equipment being used. Students develop expertise in the creation of business documents through the use of operational and text-editing features such as document merges, newspaper and parallel columns, keyboard merges, graphics, and desktop publishing features. Proofreading and language skills will be developed through the production of business documents.

106-187
Office Technology Communications **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.

106-189
Word Processing I **3.00**

This course covers the basic features of a word processing software package and an understanding of the equipment being used. Students will learn to create, format, edit, and print business documents. Proofreading will be developed through the production of business documents that have been transcribed from recorded voice dictation.

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.

106-191
Introduction to Desktop Publishing **3.00**

Students will apply graphic design concepts to produce desktop publishing

projects. In so doing, they will understand the three components of desktop publishing: input, composition, and output. Using scanners and importing text from other programs are also covered.

106-192
Administrative Assistant Internship 3.00
Students perform word processing, spreadsheet, and database applications 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 five weeks of employment credential preparation and software review in the classroom before job placement.

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.

106-371
Medical Transcription II 4.00
Students increase and sharpen skills in transcribing medical reports. Includes working with foreign accents.

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.

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.

106-384
Word Processing Applied 3.00
Introduces the basic concept and operation of word processing software package and an understanding of the equipment being used. Some of the operations included in this course are storing and retrieving, formatting, editing and printing documents. The class will provide applications using multiple-page, merged and tabulated documents, and file management.

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.

107-001
A+ Core (Hardware) Exam Prep 1.00
The focus of this class is: installation, configuration, and upgrading hardware; diagnosing and troubleshooting; preventative maintenance; motherboard/ processors and memory; and printers and basic networking. 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).

107-003
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.

107-007
i-Net+ Review Class 1.00
This course will prepare an individual for the CompTIA i-Net+ Certification Exam. This class is intended for individuals who have completed coursework in basic internet and network technologies or have therelated experience. The focus of this class is basic technical proficiency related to the following technologies: internet, intranet, and extranet. 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).

107-008
MCP Windows Server 2003 Review Class 1.00
This course will prepare an individual for the Microsoft Certified Professional Windows Server 2003 (70-290) Certification Exam. This class is intended for individuals who have completed coursework in Windows 2003 Server administration or have the related experience. The focus of this class is technical proficiency related to the administration of a Windows 2003 Server environment. This class will consist of lectures on the essential material for this exam and will not provide time to perform labs. All students will be required to purchase a book and certification test bank (self-test software).

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.

107-012
OS Fundamentals 3.00
Students will be introduced to fundamental concepts in the area of current Operating Systems (OS) and hardware components.

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.

107-101
Microcomputer Operating Systems3.00
Students will learn the fundamentals of microcomputer operating systems. Emphasis will be on the manipulation of folders/directories and files. Strategies for backup and virus avoidance will bediscussed. Students will learn configuration techniques and system utilities. Outside resources including the Internet will be explored for additional information.

107-111
Fundamentals - Unix 2.00
The Fundamentals - Unix course, featuring the Solaris operating environment, provides students with the necessary knowledge and skills to use components of the desktop system, manage files and directories, create and modify files, control the user work environment, archive files, and use remote commands. In addition, this course explains fundamental command line features of the Solaris operating environment, including file system navigation, the vi text editor, file compression, and basic network use. This course is the first in a two-part series that students take in preparation for the Sun Certified System Administrator for the Solaris Operating System Environment, Part I, exam.

107-113
Computer Concepts 3.00
This course teaches students the evolution and structure of computer systems, from mainframes to microcomputer. Topics include internal operations, input/output devices, storage media, file and database design, data communications, the application software development cycle, the system development cycle, and management information and decision support systems. Word processing and spreadsheet software will also be covered.

107-122
Shell Programming - Unix 3.00
The Shell Programming - Unix course provides students with the knowledge to read, write, and debug C shell scripts. Students are taught how to develop simple scripts to automate frequently executed sequences of commands and how to use conditional logic, user interaction, loops, and menus to enhance the productivity and effectiveness of the user. This course is intended for individuals who are familiar with the Solaris operating environment and who would like to read and understand various C shell scripts and write their own shell scripts to automate their day-to-day tasks. This course explores in detail the C shell scripting language.

107-127
Computer Programming COBOL/ 400 3.00
Introduction to one of the major business programming languages. Topics covered include: the basic language structure and rules, using structured programming techniques, using physical and logical file structures, the use of tables, random file processing techniques, debugging techniques, extensive programming and documentation of business related application.

107-161
Information Systems in the Workplace 3.00
Students will learn about the role of information systems in the workplace. Students will prepare appropriate information systems documents.

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 bestressed. 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.

107-188
Internet Concepts & Technologies 3.00
This course will familiarize the student with all aspects of the hardware and software comprising the technologies of the Internet. Students will be able to feel confident conversing with bothbusiness people and technical people about the features and technologies of the Internet. People completing the course will be prepared to take the CompTIA I-Net certification exam.

107-190
Databases on the Web 3.00
This course will prepare the student to develop and maintain databases on the Web while exploring a variety of methods. Topics will include the current technolo-

gies for Web based data-driven sites, including e-commerce sites.

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.

107-193A
Computer Hardware Essentials for Teacher **2.00**

The Computer hardware and software course helps teachers gain greater skills in working with laptops and portable devices, wireless connectivity, security, safety and environmental issues and communication skills. Teachers will gain access to materials that include: course quides, reference guides, PowerPoint presentations, lab materials and activities.

107-194
Enterprise DBA 1 **3.00**

This course offers students an extensive introduction to 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. Students learn to retrieve data by using advanced techniques. They also learn to write SQL script files to generate report-like output. Demonstrations and hands-on labs reinforce the fundamental concepts.

107-195
Enterprise DBA 2 **3.00**

This course is designed to give the Oracle database administrator (DBA) a firm foundation in basic database administrative tasks. Students gain a thorough conceptual understanding of the Oracle database architecture and how the architectural structures of an Oracle database work and interact with one another. Students also learn how to create an operational database and properly manage the various structures in an effective and efficient manner, in order to have a well-designed and operational database. 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 (GUI) tools. Hands-on labs help to reinforce key concepts.

107-196
Enterprise DBA 3 **3.00**

In this course, students learn about transporting data between databases and the utilities used to perform these activities. Students are also introduced to networking concepts and configuration parameters, as well as how to solve some common network problems. In hands-on exercises, students configure network parameters so that database clients and tools can communicate with the Oracle database server across LANs and WANs. This course also addresses backup and recovery scenarios. Students also examine backup methodologies based on business requirements in a mission critical enterprise. Hands-on labs help to reinforce key concepts.

107-197
Enterprise DBA 4 **3.00**

This course will introduce participants to a series of tuning steps which can be used to improve the performance of a database server. The importance of good initial database design and the method used to tune a production database are covered. The focus is on database and instance tuning, rather than specific operating system performance. Participants will gain practical experience tuning an Oracle database. Using a variety of tools, participants also learn how to recognize, troubleshoot, and resolve common performance related problems in administering an Oracle database. Hands-on labs help to reinforce key concepts.

109-101
Hospitality/Principles of **3.00**

Introduction to origin, development, current scope, future outlook of hospitality field. Prepares student to interact with people, social and corporate etiquette addressed.

109-107
Legal Aspects of Hospitality Management **3.00**

Identifies the role of management in avoiding criminal or tortious legal difficulties. Applies legal principles to the development, implementation, and supervision of hospitality-based management programs.

109-110
Housekeeping Management **3.00**

Communications, guest services and housekeeping departments are examined. Management techniques common to all departments include scheduling, inspection and documentation of staff functions. Personal skills necessary for interacting with guests are evaluated.

109-111
Front Office Management **3.00**

Reservations and front office departments are examined. Techniques common to these include guest interaction, reservation taking, registration and yield management. Students become familiar with various types of information and communication systems.

109-114
Managing Services/Hospitality Industry **3.00**

Students simulate a customer service cycle for hospitality industry businesses. Cycle includes analyzing the customer market, quality standards; team building; human resources and pro-active problem solving.

109-136
Lodging Field Experience **1.00**

Observation and some hands-on experience in the front office and housekeeping areas of a lodging property. Time is also spent in at least one other department determined by the student, instructor andproperty-based supervisor.

109-137
Hospitality Portfolio **1.00**

Hospitality students will go through the process of developing a personal portfolio that will include samples of their work, letters of reference, a resume, and other pertinent career search and employment information, which can be used during employment interviews.

109-144
Hospitality Internship **3.00**

Students learn and perform duties of at

least one position at a hospitality related business. Some examples of eligible businesses are hotels, restaurants, entertainment venues, tourism information centers and convention bureaus. Time is scheduled every other week for sharing insight about the experience with the instructor and other students.

109-145
Conference Center Internship 2.00
Hands-on experience in operating Gateway Conference Center on Racine Campus. Examine standard and innovative practices in other conference facilities. Team work and self-examination emphasized. First Aid/CPR certification completed in course.

109-171
Hospitality Sales and Marketing 3.00
Apply marketing techniques to hospitality industry. Emphasis given to convention and group sales concepts. Preferences and considerations of various market segments are addressed.

114-102
Corporate Financial Management 3.00
This course views finance from the perspective of the financial manager. Students will think critically and apply both finance and accounting principles to topics including: forecasting and budgeting, break-even analysis, operating and financial leverage, financing decision techniques, utilizing time, value of money concepts, cost of capital, long-term debt and equity financing, acquisition and merger tactics, and basic financial statement ratio analysis.

140-101
International Education Project 2.00
Participants in this course will learn about international education within the Wisconsin Technical College System, how to set up an international education component in their course and/or program, and how a student study abroad program is developed.

140-102
International Study - Germany 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.

140-103
International Study-China 2.00
This course is designed for students participating in an international exchange to China. Students will be exposed to basic Chinese language skills, cultural information, business etiquette, global business practices, and development of an oral presentation.

140-104
International Study-Canada 2.00
This course is designed for students participating in an international exchange to Canada. Students will be exposed to basic French Canadian language skills, cultural information, business etiquette, global business practices, and development of an oral presentation.

140-105
International Field Study 4.00
Provides students with first-hand knowledge of working and studying in their program related area in the international environment. Students will learn the fundamentals of a foreign 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. While abroad, students will gain cultural knowledge and understanding of values and behaviors in adifferent 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.

140-417
Spanish! a Conversar! Level 2 0.30
This is a non-intimidating and motivating Spanish class that encourages conversation. Flash cards and working with a partner stimulates an active role where you learn to speak not just learn grammar. Level 2: you will learn the preterite tense and object pronouns and a working vocabulary of 300 words.

140-418
Spanish! A Conversar! 3B 0.30
This is a nonintimidating and motivating Spanish class that encourages conversation. Flash cards and working with a partner stimulates an active role where you learn to speak not just learn grammar. Level 3B: Express your personality and thoughts in Spanish as you learn to use and integrate seven tenses. Build an extensive Spanish vocabulary. This is a continuation of level 3.

145-101
Entrepreneurship I 2.00
This course provides an opportunity for students to identify and develop a current business start-up in a field of their choice. Identify characteristics necessary for a successful entrepreneur and assess their personal skills, attitudes, education and experience. Explore entrepreneurial opportunities for product/service. Analyze demographics and psychographics of a targeted market. Select a location for business. Determine ownership and financing for business. Plan personnel, including job descriptions. Assess insurance and licensing needs. Create a marketing plan.

145-102
Entrepreneurship II 1.00
Student will develop a complete business plan for a new entrepreneurial endeavor. Develop a formalized business. Critique business plans. Present a business plan.

145-103
Principles of Small Business Operations 2.00
This course covers the fundamentals of business life needed to profitably operate a small business, including site selection, building needs, financing know-how, personnel relations, franchises, and automation.

150-101
Networking Essentials 1.00
This course provides an introduction to computer networking. Key topics of discussion include network protocols, sockets, network devices, and network management. This course may only be offered by authorized e-business advanced career education program providers with IBM authorized instructors, software, and hardware.

150-103
Data Communications 3.00
This course provides classroom and laboratory experience in current and

emerging networking technology. This includes, but is not limited to, networking, network technology and protocols, network standards, LANs, WANs, the OSI model, cabling, cabling tools, routers, ethernet, IP addressing, and network standards.

150-104
Routing Principles **3.00**

This course provides classroom and lab experience in current and emerging networking technology. It includes, but is not limited to, OSI reference models, LANs, WANs, TCP/IP addresses, routers, router configurations, routing protocols, internetwork open system (IOS) images, and network troubleshooting techniques. Students will become familiar with the use of command protocols that are used when configuring networks and will learn how to troubleshoot amulti-router topology.

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.

150-105T
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.

150-111
Network Administration - Microsoft **3.00**

This course is an introduction to basic and intermediate administration tasks in a Windows NT network environment.

150-112
Network Administration - Novell **3.00**

Introduction to basic and intermediate administration tasks in a Novell Intra Netware 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.

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.

150-121
Switching Basics & Intermediate Routing /LAN Design **3.00**

Students work with a threaded case study, which involves creating/upgrading a LAN. Topics include, but are not limited to: review of the OSI reference model, study of the OSI layer functions, LAN switching, ethernet and virtual LANs, LAN design, IGRP, ACLs, Novel IPX, and network management. Emphasis is given to the ability to apply learning from previous semesters and to explain how and why a particular strategy is employed.

150-122
WAN Technologies **3.00**

Students continue to work with the threaded case study. This includes, but is not limited to, a review of LAN switching, VLANs, LAN design, routing protocols, access lists, WANs, OSI reference models, networking, point to point protocols, ISDN, dial-on-demand routing, frame relay, and network management. Again, emphasis will be on the student's ability to demonstrate and apply learning from previous semesters to a network and explain how and why a particular strategy is employed.

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.

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.

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.

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.

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.

150-134
Web Servers and Security 3.00

This class will discuss the current trends and techniques in web server administration. Students will learn how to install, configure, and manage a variety of web server platforms. Additional topics to be covered include firewalls (both hardware and software) and security.

150-135
Switching & Wan's - CCNA 3 & 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.

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 basictechnology plan which includes server management and disaster recovery plans. This class will also prepare you to take the CompTIA's Server+ industry certification exam.

150-191
Fundamentals - Unix 2.00

The Fundamentals - Unix course, featuring the Solaris operating environment, provides students with the necessary knowledge and skills to use components of the desktop system, manage files and directories, create and modify files, control the user work environment, archive files, and use remote commands. In addition, this course explains fundamental command line features of the Solaris operating environment, including file system navigation, the vi text editor, file compression, and basic network use. This course is the first in a two-part series that students take in preparation for the Sun Certified System Administrator for the Solaris Operating System Environment, Part I, exam.

150-192
Administration 1 - Unix 3.00

The Administration 1 - Unix course provides students with the necessary knowledge and skills to perform essential system administration tasks in the Solaris operating environment, such as installing software, managing file systems, performing system boot procedures, performing user and security administration, managing network printers and system processes, and performing system backups and restores. This course is the second in a two-part series that students take in preparation for the Sun Certified System Administrator for the Solaris Operating Environment, Part I, exam.

150-193
Administration 2 - Unix 3.00

The Administration 2 - Unix course provides students with the necessary knowledge and skills to perform network basics, manage virtual file systems and core dumps, manage storage volumes, control accessand configure system messaging, set up naming services, and understand installation procedures. This course is taken in preparation for Part II of the Sun System Administration certification exam.

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 securityprocedures, systems development security, cryptography, security models, operations security, disaster recovery, laws and ethics, and physical security.

150-195
Security Policies and Procedures 3.00

Students will learn how to develop a security vision statement. These will be simple written security policies and procedures to protect information, people, and property. It will include controlling e-commerce and information systems, while complying with legal and policy requirements. Students will evaluate information systems, assign ownership and responsibilities, and develop an emergency response plan.

150-196
Security Measures and Hacking Detection 3.00

Students will learn about the events that occur on network systems from audit trails, network monitoring systems, and intrusion detection systems. Students will develop a system to provide early warning of an information attack. Students will learn how to identify explicit and secure well known and little-known vulnerabilities in various operating systems. Students will explore common weaknesses in router and firewall installations, exposing the ways that are used to circumvent traditional and hardened security filters or firewalls. Protective measures and incident response checklists will be covered.

150-197
Securing Wireless Devices and Networks 3.00

This introductory course to wireless LANs focuses on the design, planning, implementation, operation, and troubleshooting of wireless LANs. It covers an overview of technologies, security, and design best practices, with particular emphasis on hands on skills, including wireless LAN setup and troubleshooting, 802.11 technologies, products, and solutions, radio technologies, WLAN applications and site surveys, design, installation, configuration, and troubleshooting, WLAN security, and emerging wireless technologies.

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.

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.

152-091
iSeries Application Integration Tools 3.00

Using both theoretical and practical components, students will learn why integration of the enterprise has emerged as a critical issue for organizations in all business sectors striving tomaintain competitive advantage. This course will teach the theory and concepts of application integration. Students will use the IBM WebSphere Application Server (WAS), WebSphere Development Studio, and WebFacing Tool in class projects and lab assignments.

152-093
WebSphere Application Server (WAS) Programming 3.00

Students will learn to design, create, and maintain applications on the Java 2 Platform Enterprise Edition (J2EE) components, Enterprise JavaBeans (EJBs), and JavaServer Pages (JSPs). Topics include deployment and configuration as well as the development of application clients that access them.

152-094
WebSphere Application Server (WAS) Administration 3.00

Students will learn to install, configure, and maintain the WebSphere Application Server. Through labs, the student will internalize the day-to-day tasks associated with the smooth and efficient operation of the WebSphere run-time environment. Topics covered will include hardware and software requirements, server and application security, and backup and restore strategies.

152-095
Enterprise Generation Language - Web Development 3.00

This course covers the integration between Enterprise Generation Language (EGL) and JavaServer Faces (JSF). Students learn to develop web applications, with minimal knowledge of Java, by using JSF for the web components and EGL for the program logic. Java source and class files are generated from the EGL program logic. The JavaServer Faces-enabled pages and the EGL-generated code together make up the web application thatcan be deployed to the IBM WebSphere Application Server or Tomcat.

152-101
Programming Fundamentals 1.00

This course provides the background and nomenclature to enable students to develop skills in traditional programming languages and learn the elements of the development process for mainframe systems. This is your opportunity to learn the components of a mainframe configuration and understand hexadecimal and binary number systems and the standard elements of a host application program. This course may only be offered by authorized e-business advanced career education program providers with IBM authorized instructors, software, and hardware.

152-102
Introduction to Programming Using C 3.00

C is the undisputed leader for system software and real time application development. The course provides a strong foundation in programming through C, which is mandatory for long-term success in a software career. Students receive a comprehensive overview of the basic and advanced features of C. This course may only be offered by authorized e-business advanced career education program providers with IBM authorized instructors, software, and hardware.

152-103
Data Structures and Algorithms 2.00

It is essential for any computer professional to develop efficient programs using various storage structures. This is a requirement for sharpening programming skills and logic. This course discusses data structure and algorithms at length. This course may only be offered by authorized e-business advanced career education program providers with IBM authorized instructors, software, and hardware.

152-104
RDBMS & SQL Concepts 2.00

Knowledge of databases is required for any commercial application development. This course begins with an introduction to database systems and treatment of the fundamentals, such as ER modeling, database design, and normalization. Students are also provided with a comprehensive overview of SQL, database management, and security. This course may only be offered by authorized e-business advanced career education program providers with IBM authorized instructors, software, and hardware.

152-105
System i 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.

152-106
Microcomputer Programming 4.00

An introductory class in microcomputer programming. Course material will include logic, problem solving, documentation, writing programs using both top-down and visual development tools. Structured programming and error handling techniques will be stressed. The systems development life cycle will be outlined.

152-107
Database Concepts and Applications **3.00**

This course covers microcomputer database concepts and applications, including design concepts, creating, querying, updating, reporting, developing menus, and applications. Students will evaluate and integrate an assortment of microcomputer database software.

152-108
Web Programming Sampler **3.00**

An introduction to web programming, this sampler will explore a variety of tools used for web page creation.

152-109
Scripting Technologies **3.00**

This course will prepare the student to enhance the functionality of Web pages through the use of scripting techniques. Current best practices on scripting technologies will be utilized.

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.

152-112
Core JAVA for e-Business Application **4.00**

Java language, popular for its 'write once, run anywhere' capabilities, has become the preferred choice for application development, internet solutions, and e-business solution development.The course provides a comprehensive review of all core aspects of Java. This course may only be offered by authorized e-business application advanced career education program providers with IBM authorized instructors, software, and hardware.

152-113
DB2/UDB Programming for e-Business Application **2.00**

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.

152-116
IBM Web Programming **2.00**

The World Wide Web (WWW) has emerged as a strong platform for a host of activities that vary from chatting to developing e-business solutions. Therefore, having the necessary skills for Web technologies is essential for today's application development environment. The course provides a comprehensive coverage of HTML and JavaScript. This course may only be offered by authorized e-business application advanced career education program providers with IBMauthorized instructors, software, and hardware.

152-118
Enterprise Java I **4.00**

This course first provides an introduction to IBM's new generation application development tool, WebSphere Studio Application Developer (WSAD), and enables the students to gain awareness and familiarity with the rich set of features available with Application Developer. The scope of this course is on developing and testing of server-side applications that use Servlets and Java Server Pages (JSPs). It enables students to develop Servlets, JSPs, and JavaBeans using IBM Websphere Studio Application Developer (WSAD) and deploy them on IBM WebSphere Application Servers (WAS). This course may only be offered by authorized e-business advanced career education program providers with IBM authorized instructors, software, and hardware.

152-119
Enterprise Java II **3.00**

This course deals with developing and testing enterprise java applications using IBM WebSphere tools. The course begins with an introduction to Enterprise Java Beans (EJB) and provides a comprehensive review of session and entity beans. It enables students to develop Enterprise Java Beans using IBM WebSphere Studio Application Developer (WSAD) and deploy them on an IBM WebSphere Application Server. This course may only be offered by authorized e-business advanced career education program providers with IBM authorized instructors, software, and hardware.

152-120
Enterprise Application Development Using XML **3.00**

XML has become the backbone technology for enterprise data exchange. The usage of XML technology is required for any enterprise application development. This course provides an in-depth coverage of both the conceptual and programming aspects of XML technology. This course may only be offered by authorized e-business advanced career education program providers with IBM authorized instructors, software, and hardware.

152-121
IBM Project Based Learning II **2.00**

This project enables students to apply the concepts addressed in this module, namely the development and integration of enterprise-wide applications, in a practical situation. The project requires the application of object oriented analysis and design concepts, database design concepts, J2EE, and XML. Students are required to carry out the project using enterprise computing technologies and IBM tools for e-business application development and integration. This course may only be offered by authorized e-business advanced career education program providers with IBM authorized instructors, software, and hardware.

152-122
Computer Programming RPG/400 **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.

152-123
Computer Programming COBOL 400 **4.00**

Introduction to one of the major business programming languages. Topics covered include: basic language structure and rules, using structured programming techniques, physical techniques, onlineprogramming techniques, extensive programming and documentation of business related applications.

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.

152-125
Computer Programming Rpg/ 400 Advanced **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 thefollowing 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.

152-126
Programming & 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 recoveryscenarios. 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.

152-128
DBA - Part 3 - Oracle **3.00**

n 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.

152-130
Database Programming **3.00**

Students will learn the fundamentals of designing and coding custom database applications on the microcomputer platform. Projects will be completed from beginning to end, including designing the database,coding and testing of the application, creating proper industry standard documentation, error handling techniques, security, and disaster recovery.

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.

152-132
Systems Design and Development II **3.00**

System analysis, information flow-charting techniques, documentation forms analysis and design, formalization and records management. Examples of systems from industry. As a class project, anentire industrial system is designed and implemented.

152-133
System i Control Language **2.00**

AS/400 Control Language (CL) commands, functions, and applications are used in a hands-on environment.

152-134
Client Server Applications **2.00**

Course will explore methods of sharing information over an integrated network of microcomputers and a mid-frame computer.

152-135
Databases on the Web **3.00**

This course will prepare the student to develop and maintain databases on the Web while exploring a variety of methods. Topics will include the current technologies for Web based data-driven sites, including e-commerce sites.

152-136
Multiple Platform Programming **3.00**

This course will build on the student's prior web programming courses, expanding on languages and development tools in the business environment. Students will begin to develop the ability to differentiate between various tools and identify which works best for different situations. An integrated development environment will be introduced in this class.

152-137
Web Projects/Advanced Principles of Web Development **3.00**

This capstone course will provide students the opportunity to pull together and apply all of the techniques used in web development in the business environment. With community involvement, students will develop and support an e-business site, implementing the necessary security models, customer service tools, and electronic processing techniques. Students will cover topics that will guide a web developer through the cycle of internet/intranet site and content management.

152-138
Java, Introduction to **3.00**

The 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.

152-141
Java Programming- IBM iSeries **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.

152-142
Query Language Programming **3.00**

Describe and define syntax for constructing business applications using Structured Query Language (SQL). Focus will be the use of relational data base management system (RDBMS) concepts and facilities. Topics include: structured programming standards, creating physical and logical files, access paths and indexes, query language utilities and commands, referential integrity, backup and restore considerations, and the use of triggers.

152-143
iSeries Operations in the Workplace **3.00**

This course introduces the learner to the basic concepts of navigation and operation of various utilities and tools of the Mid-range business computer. The intent of this certificate is to establish in the student a knowledge base for handling the physical support of operations in a business environment. The successful participant of the program will understand the architecture of the platform, work with the user interface, and handle work management, job streams, message handling, print functions, and client access support.

152-144
IT E-Commerce **3.00**

This course describes the basic concepts of an e-commerce web site and applies these concepts to real world applications. Topics will include how to create and market a successful web presence, build a shopping cart, manage security, choose the correct electronic payment systems, market the site through search engine listings and other techniques, and discuss the legal issues surrounding the e-commerce model.

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.

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.

152-147
IT Web Graphics - Flash **2.00**

This course will teach students basic design principles, such as color theory and layout, as they relate to interface design and interactive graphics creation. Students will use Flash to create graphics, animation, and rollover buttons. Web sites and multimedia will be designed and programmed using action script, which is the built in programming language in Flash.

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, recongizing the importance of marketing, and implementing fundamental designconcepts. 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 aswell 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.

152-151
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.

152-152
Advanced C++ **3.00**

It is essential for any computer professional to develop efficient programs using various storage structures. This is a requirement for sharpening programming skills and logic. This course discusses data structure and algorithms at length. Object Oriented Programming has become the de facto standard foundation for Object-Oriented Application Development. This course will introduce advanced object oriented concepts such as Templates, Operator Overloading, CRC, Streaming, and Data Structure & Algorithms.

152-153
Advanced Java **3.00**

Students will learn to design, develop, and maintain applications on the Java 2 Platform Standard Edition (J2SE) components. Topics covered include MVC architecture, advanced swing components and layout managers, JDBC, network programming, advanced streaming, System-i JAR Files, Java security issues and thread synchronization.

152-154
Scripting-Perl **1.00**

This course will prepare the student to enhance the functionality of Web pages through the use of Perl scripting techniques. Current best practices on scripting technologies will be utilized.

152-155
Action-Scripting Flash **3.00**

This advanced course introduces students to the advanced features in Flash such as Action Script, Flash's programming language. Students will use Flash to create interactive games, animations, and dynamic websites. Students will use action Script's Object Oriented programming to create interactive projects.

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 ServerPage scripting; accessing and managing databases through ASP.NET; exploring web access features and the power of this cutting edge development tool.

152-159
Game Programming Overview **1.00**

Game Programming Overview course is developed create a realistic view of game programming and the game industry, including skills the aspiring programmer needs and job prospects.

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.

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.

152-162
Perl Programming, Introduction to **2.00**

This 2 credit course will prepare the student to enhance the functionality of Web pages through the use of Perl scripting techniques. Course material and exercises will utilize best practices on a server based platform implementing and enhancing the functionality of Web pages with the using server side scripting with Perl scripting techniques. Secure data transfer and response, script debugging, Web site script publishing and error handling techniques will be stressed. On line delivery may require additional study time and have access to necessary hardware the student?s responsibility.

152-163
PHP Web Development **2.00**

This course introduces the student to dynamic web page development using the PHP programming language. Students will learn how PHP works, how to effectively use many of its powerful features, and how to design and build their own PHP web applications.

152-191
Shell Programming - Unix **3.00**

The Shell Programming - Unix course provides students with the knowledge to read, write, and debug C shell scripts. Students are taught how to develop simple scripts to automate frequently executed sequences of commands and how to use conditional logic, user interaction, loops, and menus to enhance the productivity and effectiveness of the user. This course is intended for individuals who are familiar with the Solaris operating environment and who would like to read and understand various C shell scripts and write their own shell scripts to automate their day-to-day tasks. This course explores in detail the C shell scripting language.

152-192
Integrated Web Applications - Macromedia **3.00**

The student will design and develop an integrated web application using a popular WYSIWYG environment. The primary focus will be on site development with an introduction to other components within the environment.

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.

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.

152-195
Enterprise DBA 2 **3.00**

This course is designed to give the Oracle database administrator (DBA) a firm foundation in basic database administrative tasks. Students gain a thorough conceptual understanding of the Oracle database architecture and how the architectural structures of an Oracle database work and interact with one another. Students also learn how to create an operational database and properly manage the various structures in an effective and efficient manner, in order to have a well-designed and operational database. 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 (GUI) tools. Hands-on labs help to reinforce key concepts.

152-196
Enterprise DBA 3 **3.00**

In this course, students learn about transporting data between databases and the utilities used to perform these activities. Students are also introduced

to networking concepts and configuration parameters, as well as how to solve some common network problems. In hands-on exercises, students configure network parameters so that database clients and tools can communicate with the Oracle database server across LANs and WANs. This course also addresses backup and recovery scenarios. Students also examine backup methodologies based on business requirements in a mission critical enterprise. Hands-on labs help to reinforce key concepts.

152-197
Enterprise DBA 4 **3.00**

This course will introduce participants to a series of tuning steps which can be used to improve the performance of a database server. The importance of good initial database design and the method used to tune a production database are covered. The focus is on database and instance tuning, rather than specific operating system performance. Participants will gain practical experience tuning an Oracle database. Using a variety of tools, participants also learn how to recognize, troubleshoot, and resolve common performance related problems in administering an Oracle database. Hands-on labs help to reinforce key concepts.

152-198
PL/SQL Programming **3.00**

This course will introduce the student to using PL/SQL language to interact with an Oracle database and support application programs within a business environment. It is intended to be taken as part of the Oracle Forms Developer: Internet Applications Advanced Technical Certificate. Students must be familiar with relational databases and have a strong understanding of Structured Query Language. Certification exam objectives have been incorporated intothe class.

152-199
Oracle Forms Builder **4.00**

The student will be introduced to the Oracle Forms Builder and will create business applications for Web and client server environments. This course is part of the Oracle Forms Developer: Internet Applications Advanced Technical Certificate. The student must be familiar with relational database concepts, SQL, and PL/SQL to be successful in this course. Oracle certification exam objectives have been incorporated into this class.

154-100
Microcomputer/Introduction to **3.00**

This beginning course emphasizes essential computer concepts and terminology with microcomputer laboratory activities, including the Windows operating system, word processing, spreadsheet programs, and database programs.

154-101
Introduction to Computer and Operating System for e-Business Applications **2.00**

This course is designed to provide the student with an overview of a computer and its organization. It introduces the various computer components, its peripherals, the different types of computers, the basic concepts of hardware and software, and the basics of computer networking. It also introduces the concept of an operating system through MS Windows 2000 and how to perform basic functions, such as the use of files and folders, command prompts, editors, and the customization of MS Windows 2000. This course may only be offered by authorized e-business application advanced career education program providers with IBM authorized instructors, software, and hardware.

154-102
Computer Architecture for e-Business Application **2.00**

Knowledge of core topics, like computer organization and system software, is essential to understanding the low level feature of computing. An introduction to elementary computer organization, followed by an overview of digital logic, sets the pace of this course. The course lays the foundation for system software and covers in detail the major responsibilities of the operating system, such as memory management, process management, device management, and file management. This course may only be offered by authorized e-business application advanced career education program providers with IBM authorized instructors, software, and hardware.

154-103
Linux Basic for e-Business Application **2.00**

Linux is a rapidly growing and highly powerful open-source operating system. This course addresses the essential Linux skills and discusses Linux components, system structure, and shell programming in detail. This course may only be offered by authorized e-business application advanced career education program providers with IBM authorized instructors, software, and hardware.

154-104
Internet & e-Business Fundamentals **1.00**

Students learn how to use key internet technologies, such as web browsers, e-mail, newsgroups, File Transfer Protocols (FTP), Telnet, and search engines. Students gain experience configuringboth Netscape Navigator and Microsoft Internet Explorer in order to access rich multimedia, including RealPlayer, Shockwave, and Flash content. Students also use a variety of web-based search engines to conduct advanced searches and learn the basics of electronic commerce and security issues. This course may only be offered by authorized e-business application advanced career education program providers with IBM authorized instructors, software, and hardware.

154-106
PC Hardware and Software I **4.00**

Students will learn basic troubleshooting skills and installation and configuration of major microcomputer components, including network interface cards, data storage devices, I/O devices, and memory. Students will also learn how to use the Internet for troubleshooting and upgrading hardware. Exposure to system diagnostics and utility software will round out the course.

154-107
PC Hardware and Software II **3.00**

Students continuing on to PC Hardware and Software II will develop additional troubleshooting skills working on multiple platforms. Advanced configurations and troubleshooting skills will be learned. Students will develop troubleshooting skills with Apple, PC, and notebook computer systems. Students will develop advanced configuration concepts.

154-108
IT Help Desk/User Support **3.00**

Introduces the student to the service

concepts, skill sets, career paths, and operations of the help desk industry. Help desk concepts are presented from an educational and business application perspective.

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.

154-110
Hardware & Software Troubleshooting **3.00**

Students will learn principles of Operating Systems and hardware components. The goal of the course is to enable the learner to effectively troubleshoot hardware and software issues in a variety of environments. The learner will be introduced to 3rd party tools and integrated tools within the system.

154-111
Personal Area Devices & Technology **3.00**

This course will cover the use and support of various end user personal devices in the business environment. The class will cover a variety of topics, including the business application and support of Personal Data Assistants (PDAs), cell phones, web cameras, lap tops and tablets, and Geographic Positioning Systems (GPS). Emphasis will be placed on the integration of devices to facilitate mobile computing.

154-112
Data Security & 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 andlegal data requirements (i.e. HIPPA requirements, Sarbanes-Oxley Act, etc.).

154-113
IT Apps Server & 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.

154-114
Hardware & 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 the student to take the CompTIAA A+ Certification exam and the Microsoft Certified Desktop Technician Exam 70-271.

154-115
IT Customer Service Support **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 expected to prepare and deliver end user training, create written and online manuals and FAQs (Frequently Asked Questions), and perform the day-to-day duties in a variety of help desk environments.

154-116
Emerging Technologies & 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.

154-117
Auto IT for Transportation **3.00**

Modern vehicles use on-board computers to control just about every function from accident avoidance to video navigation. Communication between computers is handled over sophisticated networks. The modern toolbox is not only filled with computer-based tools it is likely to have a PC on it or in it and is likely to be networked to the rest of the shop and the internet. Today's technician needs a thorough understanding of PC's, networks, synchronizing PDAs and operating systems. This course covers IT topics the modern technician is likely to encounter such as hardware and software installations, implementing a peer-to-peer network, and troubleshooting hardware, software, and network failures.

154-118
CSS Skills Implementation & Career Prep **3.00**

This capstone class will allow the student to prepare for employment by reiterating the skills and knowledge learned over the course of the CSS program. 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 creationand deployment, and remote desktop diagnostics/ troubleshooting.

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.

170-100
Captioning/CART I Lab **1.00**

Captioning/CART I prepares the learner to: write dictation at 160 wpm; broadcast 10 minutes non- stop; write new punctuation and symbols, new flagged alphabet characters, environmental sounds, web/internet addresses, common proper names, common female and male first names, governmental/ political terms, terms applicable to food, and the names of animals; fingerspell words, increase vocabulary, use terms applicable to criminology, and manage dictionaries.

170-102
Captioning/CART II Lab **1.00**

Captioning/CART II Lab prepares the

learner to: write dictation at 160 wpm; broadcast 10 minutes non-stop; write new punctuation and symbols, new flagged alphabet characters, environmental sounds, web/internet addresses, common proper names, common female and male first names, governmental/ political terms, terms applicable to food, and the names of animals; fingerspell words; increase vocabulary; use terms applicable to criminology; and manage dictionaries.

170-103
Captioning/CART III Lab **1.00**

Captioning/CART III Lab prepares the learner to: write dictation at 180 wpm; broadcast 30 minute news broadcasts non-stop; write new punctuation and symbols, new flagged alphabet characters, environmental sounds and descriptors, web/internet addresses, meteorological terms, terms used in the fine arts, terms used in literature, scientific terms, and terms used in common world religions; increase vocabulary; finger-spell words; and manage dictionaries.

182-135
Principles of Operation Management **2.00**

This course deals with the design of systems to produce goods and services and the operation of these systems. It discusses relationships within the company environment, particularly with marketing and product design. Additional topics include facilities planning, total quality management, cost analysis, project planning, and operations resource management.

182-137
Principles of Inventory Control **2.00**

This course deals with essential vocabulary and skills in identifying and applying basic principles of inventory management. Basic methods of planning and controlling inventory in manufacturing, institutional, distribution, and retail environments are covered. Questions of what to stock are addressed through an examination of current and evolving technologies of inventory management.

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.

182-151
APICS: Enterprise Concepts and Fundamentals **2.00**

This is the first of five courses covering the body of knowledge of the (APICS) American Society for Production and Inventory Control, Certified in Resource Management (CIRM) program. This course introduces the strategies and roles of the cross- functional enterprise, the management concepts of organizational design, and structure of a value driven organization. The four basic functions of quality, human resources, finance, and informational systems will be reviewed.

182-152
APICS: Identifying and Creating Demand **2.00**

This is the second of five courses covering the body of knowledge of the American Society for Production and Inventory Control (APICS), Certified in Resource Management (CIRM) program. This course deals with strategies and tactics which identify, define, and qualify customer wants and needs and how to translate this information into requirements for value-added products and services to be delivered by the organization. Also discussedis how to integrate marketing and sales, increase customer demand, and improve field service, market research, competitive analysis, pricing, and supplier relationships.

182-153
APICS: Designing Products and Processes **2.00**

This is the third of five courses covering the body of knowledge of the American Society for Production and Inventory Control (APICS), Certified in Resource Management (CIRM). This course converts a customer or market need into a product, process, or service that meets the expectations of both the enterprise and the customer. It also explores the conceptual design process from the identification of need, through the definition of requirements, design creation and development, testing, and the final implementation of the concept.

182-154
APICS: Delivering Products and Services **2.00**

This course is the fourth of five courses covering the body of knowledge of the American Society for Production and Inventory Control (APICS), Certified in Resource Management (CIRM) program. The course addresses how to integrate systems, approaches, and strategies to make the transition from concept to product and customer expectations and product delivery. Also discussed is the integration of planning systems for the control of all resources and the business processes of the enterprise required to deliver products and services to customers.

182-155
APICS: Integrated Enterprise Management **2.00**

This course is the fifth of five courses covering the body of knowledge of the (APICS) American Society for Production and Inventory Control, Certified in Resource Management (CIRM) program. The course explores business strategies and aids in assessing strategic decisions, management practices, and the effects of new technologies to gain a greater understanding of the importance of the team perspective in today's organization.

182-156
APICS: Strategic Management of Resources, Advanced Concepts **3.00**

In this capstone module, participants explore the relationship of existing and emerging processes and technologies to manufacturing strategy and supply chain related functions. The course addresses aligning resources with the strategic plan, configuring and integrating operating processes to support the strategic plan, and implementing change.

182-160
Integrated Computer Systems Applications **2.00**

Computerized systems applications planning provides practical uses of a closed loop system. Areas covered will be company bills of material, inventory records, vendor files, material requirements planning, master production schedule, sales order, and costing.

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 & 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.

182-163
Execution and Control of Operations **3.00**

The focus is on areas of prioritizing and sequencing work, executing work plans, and implementing plans and feedback on performance. The course explains techniques for scheduling and controlling production processes and continuous improvement plans. 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.

182-165
Strategic Management of Resources **2.00**

Students explore the relationship of existing and emerging processes and technologies to manufacturing. This course addresses three main topics: aligning resources with the strategic plan, configuring and integrating, and implementing change in competitive markets. It is designed as preparation for APICS certification.

182-166
Business Purchasing International **3.00**

A study of advanced purchasing activities. The course covers global suppliers, traffic, financial commitments, systems and procedures, and administrative functions. The course will provide abroader base of purchasing knowledge necessary for a purchasing career. CPM points are available upon completion of the course. Studies focus on the areas of: International Purchasing/ISO9000 and Certification in Purchasing Management Exam preparation.

182-167
Materials Management Internship **3.00**

Students perform production and inventory planning applications, work in an on-the-job training situation, in companies that are working with the latest systems. The purpose is to allow the student the opportunity to apply knowledge learned in the classroom to the real world. Student employee, employer, and internship instructor interact to accomplish the training experience. The student must have fourth-semester standing or equivalent before taking this course.

182-170
Materials Requirement Planning/ Capacity Requirement Planning **3.00**

Principles, concepts and other aspects of materials requirements planning and capacity requirements planning. The interrelationship between these key functions in the organizational materials control system will be emphasized. Topics include systems design and specifications, time planning, lot sizing, safety stock, priority planning, measurement of capacity, resource requirements planning, scheduling practices, and capacity control.

182-170A
Materials Requirement Plan/ CRT A **2.00**

This course concentrates on topics covered in American Production and Inventory Society, CPIM Exam Master Planning of Resources. Participants explore processes used to develop sales and operations plans, as well as a master schedule. Topics include: demand management, sales and operations planning, master scheduling, and measuring the business plan.

182-170B
Materials Requirement Plan/CRT B **1.00**

The principles and concepts of materials requirements and capacity requirements planing will be taught. Other topics includes systems design, systems specifications, time planning, lot sizing, and safety stock.

182-171
Master Planning **2.00**

Topics include production and priority planning, master production scheduling policies and procedures, performance measurements, forecasting, made to order/made to stock approaches, and process inventory.

182-172
Supply Chain Management Basics **2.00**

Determine the EOQ under varying cost and demand situations. Compute safety stock needs, order quantity. Revise an MRP plan for different production needs. Manage and integrate a distribution requirements system into planning. APICS certification preparation is stressed.

182-173
Advanced Sourcing Principles **3.00**

Advanced Sourcing Principles in an introduction to the world of professional purchasing. Basic issues are studied, including investment recovery, legal aspects of purchasing, international purchasing, public purchasing, the acquisition of capital assets, the acquisition of services, and special emphasis on purchasing negotiation. In addition, major changes taking place in the world in continuous improvement, customer satisfaction, and management philosophy are incorporated in the course. CPM points available.

182-174
Transportation Management **3.00**

Fundamentals of the administration aspects of transportation operations; hands-on exercises in freight classification, tariffs, carrier pricing schedules, rates, bills of lading, contracts, and freight claims. CPM points are available upon completion of the course.

182-175
Negotiation & Value Analysis **2.00**

This course is designed to provide students with content and skills associated with successful negotiation. These skills are important aids in dealing with suppliers, salespeople, purchasers, government officials, and others. The

course uses case studies, role playing, software, database searching, and lecture/discussion to provide a hands-on approach. CPM points available.

182-176
Export/Import **3.00**

This course is an overview of international trade; entering the overseas market, distribution, payment, letters of credit, shipping documents, importing, custom house brokers, government requirements, and sourcesof assistance and information are covered. CPM points available.

182-177
Transportation Negotiation and Pricing **3.00**

An examination of freight classification rules, rates, and regulations in all modes of transportation. Students study modern computerized tariffs, learn to negotiate contracts, includingfavorable rates and value-added services, gain knowledge in how deregulation has changed transportation pricing in all modes.

182-178
Freight Claims **3.00**

A study of freight loss, damage claims, and adjustments of claims in various modes of transportation, including carrier and shipper liability, transportation documents, and claim filing procedures, along with legal implications.

182-179
Distribution Resource Planning **3.00**

Distribution Resource Planning (D.R.P.) is a method of distribution management. It is the application of the M.R.P. principals and techniques to distribution inventories. Emphasis is placed on scheduling rather than ordering and on people rather than techniques. Its methods will improve customer service, reduce inventory, reduce distribution costs and obsolescence by a substantial amount.

182-180
Customer Service Management **2.00**

Students will learn to develop professional telephone etiquette, explore customer service work environments, identify and analyze customer service failures, resolve problems cost effectively, and set complaint policies and communication techniques to handle complaining customers.

182-181
Certified Supply Chain Management **3.00**

The Certified Supply Chain Management course is designed to examine Supply Chain Management Fundamentals; Building Competitive Operations,Planning, and Logistics Systems; Managing Customer andSupplier Relationships; and Using Information Technology to Enable Supply Chain Management. 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 supply chain management systems.

194-100
Real Estate Precertification for Sales License **4.00**

Students will learn the fundamentals of real estate and the principles of real estate law. Required preparation for State License Exam. Text required.

196-100
Accelerated Learning **1.00**

In Accelerated Learning, the learner will acquire the skills and tools necessary to be successful in an accelerated learning environment.

196-102
Accelerated Teaching- Train the Trainers **2.00**

This course will train the trainers on accelerated learning/teaching techniques.

196-103
Role of HR in Organizations **1.00**

This course is designed to give supervisors/ managers a basic understanding of how their role supports the human resource management function. In this module HRM, participants will become familiar with operational HR versus strategic HR as well as understanding the functions of each.

196-104
Job Analysis, Descriptions, and Specifications **1.00**

This module emphasizes the basic building blocks of HR management: job analysis, job descriptions, and job specifications.

196-105
Recruiting, Interviewing, and Selecting **1.00**

This HR module emphasizes the staffing process, including recruiting, interviewing, selecting, and retaining. A strategic approach to recruiting and retaining has become more important as competitive pressures have shifted in many types of business. Regardless of organizational size, participants need to understand the staffing decisions that need to be made.

196-106
Performance Review and Recognition **1.00**

Formal performance appraisals are a vital management tool used to evaluate and improve employee performance and motivation. Fair and carefully prepared appraisals help link compensation to performance, identify employees for promotion and training, help employees set and accomplish career objectives, and, in some cases, lay groundwork for removing unsatisfactory performers. In this course, students will learn how to use the performanceappraisal in all of these situations.

196-107
Constructive Feedback and Discipline **1.00**

This course builds supervisory skill in delivering objective, honest feedback relevant and useful to the employee. Disciplining involves taking prompt action to correct unproductive actions and behaviors and for replacing punitive measures with a high-priority action plan for getting the employee back on track. Students will learn and practice the strategies of giving constructive feedback and administering discipline to employees.

196-108
Wage and Benefit Compensation **1.00**

It is important for supervisors to have a good understanding of the state and federal laws governing pay standards. Topics covered in this course include child labor laws and related issues of hours worked and pay. Defining benefits beyond vacation time, health insurance, holiday pay, to COBRA, HIPAA, ERISA, FICA, and unemployment insurance will also be covered. Students will learn the concept of compensation and how organizations determine pay scales for various jobs.

196-109
Occupational Health and Safety 1.00

The Occupational Safety and Health Act (OSHA) requires employers to provide a safe and healthy workplace. This course emphasizes that every supervisor, manager, and other employee must give safety their daily commitment and attention. In this course, students will learn the provisions of OSHA and the 'right to know' law and the key elements of emergency planning and response.

196-113
Introduction to Industrial Management 1.00

The student will examine a variety of manufacturing scenarios. In teams, they will examine the five basic management functions and research possible solutions.

196-115
Marketing/Physical Distribution 3.00

Fundamentals of warehousing, recordkeeping, dual warehousing and organizations of distribution versus materials management concept. Essential elements of material handling, basic phases of an efficient plant layout. Methods and equipment used in horizontal, vertical and overhead movement of materials. Problems in product protection, packaging and storage are analyzed.

196-117
Issues with a Diverse Workforce 1.00

Worldwide demographic trends show that employers who learn to take full advantage of diversity are most likely to prosper, while those who allow biased or stereotyped thinking to influence management decisions are undermining their chances or survival. The purpose of this course is to make all participants sensitive to the issues of diversity, teach methods that promote positive attitudes toward diversity in the workplace, define diversity, and learn how to overcome roadblocks and obstacles to promoting diversity.

196-118
Working in Union Organizations 1.00

In this course, participants will learn about the history of unionizing, the federal and state laws that address unionizing activities, and especially about what managers and supervisors can and cannot do during a unionizing effort. Topics include private and public sector labor relations, the role of unions, and how to maintain a positive relationship in a union organization.

196-119
Human Resource Management Capstone Project 2.00

This course is the concluding one for the Human Resource Management Certificate and cannot be taken until all previous courses have been completed or satisfied. In this course, students are required to identify a project that demonstrates his/her understanding of the human resource function. An original research project related to the participant's current employer or a research paper reflecting the latest research on one of the topics covered in previous human resource management courses is required.

196-123
Problem Solving and Decision Making 2.00

Explores many approaches to problem solving. 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.

196-134
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.

196-135
Business Ethics, Concepts, & Principles 2.00

This course emphasizes the practical application of ethics and values to decision making in a business setting. Participants will experience lesson topics in the importance of values inthe workplace, learning about your own personal values, using values to make decisions, applying ethics and values to the workplace, and creating a code of ethics.

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.

196-139
Finance for Non-Financial Managers 2.00

Provides an understanding of budget concepts as applied to the supervisor. Includes basic terminology, how to organize and plan a budget, and how to use the budget as a management tool.

196-140
Law for the Manager 1.00

Designed to give supervisors a general overview of laws pertinent to their position in a business organization. Although this course is introductory, it places considerable emphasis on governmental laws and regulations which are difficult to deal with due to their complexity and number. Topics covered include: laws and the legal process; contract law; employee and employment laws; and other government regulations pertinent to the manager in a business organization.

196-141
Business Concepts for Supervisors1.00

Gives supervisors an understanding and working knowledge of modern business concepts and practices. Topics include: understanding economic system; knowing your business, organizational information system and financial management system, improving quality and productivity; and dealing with our technologically changing world.

196-142
Communication Skills for Supervisors 1.00

Focus on supervisor's situations and

problems involving communication. Topics covered include: basics of communication; resolving communication problems; developing oral and listening skills; improving writing and reading skills; effectiveness in meetings and presentations; and communicating effectively with employees and within organizations. The major goal of this course is to equip each supervisor with communication skills and concepts that will make them more effective as managers.

196-143
Interpersonal Relationships **1.00**

Deals with how a supervisor can increase effectiveness in interpersonal relationships. Topics covered include: interpersonal effectiveness for supervisors; improvement of skills in dealing with people; handling conflict; dealing with groups; working with supervisors, peers and subordinates; and building effective interpersonal relationships. Emphasis is on building the skills necessary to deal with people.

196-144
New Employees/Challenge of **1.00**

Teaches the supervisor how to work with new employees to get them started properly and to develop a positive orientation toward the job. Topics covered include: the new employee and you; planning a position; orienting the new employee; teaching and training; building performance; and special situations involving the new employee.

196-145
Developing Employee Performance **1.00**

Teaches supervisors how to develop and maintain employee performance. Topics include: the nature of work performance; developing systems for managing performance; planning and setting performance goals; monitoring employee performance; and reviewing, appraising and maintaining good performance.

196-146
Supervisory Counseling **1.00**

Stresses day-to-day informal counseling which typically involves the supervisor. Topics include the basics of counseling and interviewing for supervisors; counseling on work performance; dealing with personal problems; coaching; a day-to-day guidance and counseling technique; and, selection and departure interviewing.

196-147
Leadership Techniques **1.00**

Devoted to the leadership behaviors, characteristics and traits which are necessary for a supervisor to get things done through people. Topics covered include: effective leadership and decision making, choosing the best leadership style, and being a leader through following organizational leader examples.

196-148
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.

196-149
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.

196-160
Cost and Price Analysis **3.00**

A course that will provide the student with experience in basic blueprint reading, manufacturing methods, time study procedures, bill of material determinations and estimated procedures. Knowledge in this course should enable the student to assist the purchasing analyst in doing the basic price research.

196-162
Operations Management/ Value Analysis **3.00**

Studies the broad spectrum of centralized management in a production setting. Studies techniques to identify unnecessary costs before, during and after production of a product. American Production Inventory Control Society certification training for JIT plus systems and technologies are also part of the course.

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.

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.

196-169A
Change Management **1.00**

In Change Management, the learner will analyze the change process and reactions to change and develop a change management strategy to create a motivating environment during times of change while measuring progress and celebrating success.

196-169B
Diversity Management **2.00**

In Diversity Management, the learn will assess the current extent of diversity in the workplace, analyze the effect of perceptions, attitudes, biases, and organization culture on diversity. Each learner will develop the skills and strategies necessary to implement and maintain a diverse work environment while measuring progress and celebrating success.

196-181
GTEA/Gateway District Contract Interpretation **2.00**

This certification course teaches the GTEA/Gateway contract. Participants will learn the history and interpretation of contract language.

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.

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.

196-199
Supervision Applications/ Advanced **3.00**

An advanced applications course in supervisory techniques: the course includes group participation, negotiation strategies, situational management decision making. There is a research component in this course.

196-199A
Supervision Applications Advanced/ Project Introduction **1.00**

Project Introduction: Overview of whole course content, grading. Discussion of guidelines for writing major research papers. Generate ideas for project topics, write project statement. Discussion of criteria for project selection.

196-199B
Supervision Applications Advanced/ Project Presentation **1.00**

Project presentation: Each student will present a synopsis of their research effort, indicating major considerations in project selections, proposal development, information gatherings, applications of supervisory principles, revisions and conclusions.

196-199C
Supervision Applications Advanced/ Project Maintenance **1.00**

Project Maintenance: Review of progress and discussion of common problems. Identification of information gathering problems and other research related problems. Individual counseling sessions with instructor. Discuss presentation options.

196-199D
Supervision Applications Advanced/ Project Proposal **0.50**

Project Proposal: A written summary of what you propose to do in your project. Sharing of project ideas and suggestions

for clarification/ amplification of research methodology. Review of plan of action for project completion.

204-100
Design Concepts **4.00**

Students will study typography, color, and layout. Studies include symmetrical and symmetrical 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.

204-103
Layout and Typography **3.00**

Students will execute layouts and layout lettering on a Macintosh computer. Emphasis is placed on the study of structure and form of type as well as basic concepts in layout, and how the two can work together to create designs.

204-105
Computer Illustration/Drawing Techniques **3.00**

Students will use a variety of illustrations and graphic design software for illustration, technical drawing, composition, and implementation of created art into page layout. Students will also incorporate traditional drawing skills and scanning methods into their digital illustrations 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.

204-111
Graphic Design Problems/ Advanced **3.00**

Covers advanced skills in graphic design. Students will produce documents integrating various software programs. Emphasis will be placed on solving advanced visual problems, creating portfolioquality pieces, and participating in classroom critique.

204-112
Print Production Methods **3.00**

Students will explore and apply concepts in print production from planning a project through completion of the project. Students will develop problem-solving techniques to guide them through the process of organizing a complete project, including analysis of the project components, color (ink) selections, paper selection, photography, die-cutting, foil stamping, embossing and binding. Reproduction issues including timelines, budgets, ink properties, paper properties and design mechanics will be applied to individual projects.

204-113
Digital Prepress Fundamentals **2.00**

Students will study basic concepts in traditional and digital prepress fundamentals used in preparing graphic design artwork for printing and publishing. Students will become familiar with the complete graphic design creation process: from initial concept and planning through final printed collateral. Camera-ready layouts, simple color separated, trapped and/or press ready is the main focus of this course. History and discussion of traditional and digital prepress equipment and techniques will be emphasized. Customer needs, technical.

204-114
Internship and Portfolio Development **3.00**

Students will focus on an area of interest in their graphic design field through a match with to an appropriate employer. This match can be directed by the student or the instructor. The student will meet with the instructor to discuss job issues and assist in the development of a student portfolio. Career exploration and networking will also be discussed with a focus on the professional development of the individual student.

204-116
Webpage Design for Graphic Designers **3.00**

Students will examine the appearance and structure of existing web pages using a browser, and learn how to design their own home pages. An emphasis will be placed on using current web pagedesign software to create pleasing on-line documents that follow the principles of good graphic design and marketing.

204-117
Drawing Principles **2.00**

A study of basic traditional and technical drawing skills, emphasizing sound craftmanship and technical skill. This introductory class includes the study of perspective, proportion, construction of solid forms, and light and shade. A variety of traditional drawing media will be introduced.

204-118
2D Design **3.00**

This course guides students through an organized experimentation of traditional art media. Problem solving, visual organization, and basic composition will be emphasized. This course will include a study of perspective, light, shade, and color theory. Current design and color trends will be explored.

204-119
Advanced Design & Publishing **3.00**

This course includes advanced layout, advanced illustration, scanning, and importing of text and graphics. File formats and their compatibility with various software will be explained. Informationon cropping, spot color separation, and four color process separation will also be offered.

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.

204-121
Advanced Illustration **2.00**

This advanced course explores advanced features used in illustration software, including layers, special effects, and drawing in 3D. Three dimensional software will be introduced and used to create original illustrations. 3D, drawing, and painting software will be combined to create complex illustrations.

204-122
Commercial Art Aesthetics **1.00**

Critical assessment of visual communications is the focus of this course. The learner will explore: design processes, design strategy, critical evaluation of design, successful design, and visual logic. Students will apply critical thinking strategies and evaluate commercial art.

204-123
Introduction to Design and Publishing on The Mac **2.00**

This beginning course on the Macintosh computer introduces essential computer concepts, terminology, and file management. An introduction to various software applications is included.

204-124
Introduction to Design and Publishing on The Personal Computer **3.00**

This course examines the basic concepts in desktop publishing and focuses on the principles, equipment, software, and skills used in the publishing process. The basic concepts to be covered are page layout and design and combining text and graphics using desktop publishing software.

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 solving will be emphasized. This course will include a study of perspective, light, shade, and color theory. Current design and color trends will be explored.

204-126
Design & 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.

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.

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.

204-131
Introduction to Web Graphics **3.00**

Students will be introduced to principles of good design, as it applies to web design. Color theory, layout, typography, and copyright issues will be discussed. Site maps and storyboards will be developed and graphic optimization issues will be addressed.

204-132
Advanced Web Graphics **3.00**

Students will explore advanced design techniques and interface design. Students will create animation and explore video and sound as it applies to web development. Uploading and testing web pages will be emphasized.

204-133
IT Web Graphics **3.00**

Students will examine design theory and techniques as they apply to interface design. Creation of low resolution bitmapped graphics as well as vector graphics will be explored. Web pages will be constructed using a WYSIWYG page creation tool. Students will create animation and explore video and sound as it applies to web development. Uploading and testing web pages will be emphasized.

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.

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.

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 coursewill 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.

204-143
Illustration, Advanced 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 vocabularyinvolved 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.

204-144
Multimedia PC/Macintosh Introduction **3.00**

Design presentations using presentation software on IBM compatible computer. Learn to create outlines and speaker notes for presentations, slides, overheads and on-screen presentations. Transition effects, use of sound and video. Students responsible to create at least one presentation for class demonstration.

204-145
Authoring Tools - Flash **2.00**

Students will use authoring tools to create an interactive program that can function independently. They will also explore multimedia creations in existence for education and training. Students will explore a variety of multimedia products and creations being designed today including presentation, entertainment, publishing, advertising, and training. Experience with authoring programs and technology on both the Macintosh and the PC will be emphasized.

204-146
Video Editing **2.00**

Students will learn how to capture sound and video through the use of recording devices and a digital camera and camcorder. These elements will be incorporated into presentations and programs. An emphasis will be placed on the various file formats available to import and export files across multimedia programs.

204-147
Multimedia Graphics and Animation **2.00**

Exploration and creation of graphics for use in multimedia is the focus of this course. Digital camera will be used to capture photographic images. Animation and morphing software will be explored as well as 3-D programs and special effects programs. An emphasis will be placed on experiencing a wide variety of alternative media. Instruction will be given on the use of online services to access the vast expanse of quickly changing information as well as downloading graphics, video, and sound for use in projects.

204-148
Multimedia Applications **3.00**

This advanced course challenges students to bring all skills learned in previous certificate courses together to create professional quality multimedia tools and applications. Project planning, troubleshooting, and distribution options will be discussed.

204-149
Advanced Webpage Design **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.

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.

206-101
Traditional Animation and History **2.00**

This course will explore traditional art forms such as storyboarding, traditional life drawing, and cartooning. The history of animation will be studied as well, and students will study the animation production process from storyboard to production.

206-102
2D Computer Animation T echniques (flash) **2.00**

Basic 2D animation techniques and software will be explored through multiple projects. Applications for 2D animation such as web, gaming, and movie making

will be explored. The design process from concept to creation and production will be explored. Students will create several portfolio quality animations.

206-103
Character Design **3.00**

This unique course will begin with the study of traditional character creation and development. Students will practice drawing skills necessary to create an original character. Traditional media will then be used to create a 3D clay model of a character. That character will then be photographed at multiple angles and modeled using 3D software. The class will conclude with the addition of an appropriate soundtrack and animation of the character.

206-104
Advanced Animation and Motion Graphics **2.00**

This course will explore advanced aspects of the new technology available to create digital effects and animation. Students will learn After Effects to create successful motion graphics projects, as well as Maya advanced animation techniques. Additional animation and 3D software will be explored.

303-325
Nutrition/Principles of **1.00**

Focuses on the normal and therapeutic nutritional needs of the family. Areas of interest are: the well balanced diet, food fads and fallacies, energy nutrients, energy metabolism, vitamins and minerals.

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 marketsare 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.

304-103A
AutoCAD for Interiors I/Intro Lecture **1.00**

An introductory level course to familiarize the student with basic commands in 2-D drafting. Most drawing commands and controls of AutoCAD will be taught.

304-103B
AutoCAD for Interiors II/ Introduction To **1.00**

An introductory level course to familiarize the student with basic commands in 2-D drafting. Drawing commands, include geometric constructions and object snap will be taught. Students will learn editing commands and methods to change drawings.

304-103C
AutoCAD for Interiors III/ Introduction To **1.00**

An introductory level course to familiarize the student with basic commands in 2-D drafting. The student will review drawing commands, apply basic dimensions, and text on a drawing. Methods of plotting a drawing will be taught.

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 astrategic 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.

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.

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.

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 designingand 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.

304-122
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. Introducesstudents to the various types of window treatments and methods for fabrication, measurement and charging.

304-127
Interior Spacde 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.

304-133
Interior Materials, Finishes, & Products **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.

304-140
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.

304-147
Interior Design Internship and Portfolio Development **2.00**

Introduces students to entry level interior design work experiences and career planning skills. The course objectives are to provide students with an awareness of the interior design field, through practical experiences, and knowledge in preparing for the career search. Students will participate in discussions related to; workplace issues, career opportunities, networking, professional development, and interview techniques. The learner will also gain knowledge in preparing career search materials and a professional portfolio. The interior design internship is a collaborative agreement between the business, the student, and the interior design faculty coordinator from Gateway Technical College. Students will select an area of interest in the interior design field to complete the required 72 hours of internship experience. The appropriate student/employer match can be directed by either the student and/or instructor. A student seeking internship credit hours that comply with NKBA requirements (National Kitchen and Bath Association) may combine internship hours from this course with those accumulated from course #304-148, Interior Design Internship II.

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.

307-102
Child Development I **3.00**

Physical, social, emotional, cognitive development of children, 2 1/2 to 6.

307-103
Health/Safety and Nutrition **3.00**

Health and safety practices within responsibility, licensing requirements, identify childhood illness and disease prevention, special food needs of young children, planning nutritious snacks, sanitation, social environment for snack and meal times.

307-103A
Health for the Young Child **1.00**

Identify ways that health and health issues affect the care, nurturing and optimal physical and cognitive growth and development of the young child. Analyze state licensing rules.

307-103B
Safety for the Young Child **1.00**

Identify ways that safety and safety issues affect the care, nurturing and optimal physical and cognitive growth of the young child. Analyze state licensing rules.

307-103C
Nutrition for the Young Child **1.00**

Identify ways nutrition and nutrition issues affect the care, nurturing and optimal physical and cognitive development of the young child. Analyze state licensing rules

307-104
Early Childhood Observation and Recording **3.00**

Develop objectivity and proficiency in observing behavior of young children in individual and group situations.

307-105
Child Development II **3.00**

This course covers physical, social, emotional, and cognitive development of children 2 1/2 to 8 years of age.

307-106
Building Self Esteem in Adults/Children **2.00**

Positive guidance and behavior methods to enhance child's self-confidence.

307-106A
Building Self Esteem in Adults **1.00**

Assess own self-esteem and practice strategies for building or maintaining self-esteem of family, co- workers and parents.

307-106B
Building Self-Esteem in Children **1.00**

Practice strategies for building and maintaining self-esteem of children. Learn to guide the behavior of individual and groups of young children in ways that are sensitive to their needs and are developmentally appropriate.

307-107
Curriculum Planning **3.00**

Develop curriculum for early childhood programs. Emphasis on writing lesson and unit plans, objectives and learning activities.

307-108
Supervised Student Participation and Seminar **4.00**

Opportunity for interaction with young children in two early childhood programs. Student will act as a teacher's aide to gain procedures for guiding child behavior and development.

307-109
Math/ Science/ Social Studies Antibias Curriculum **3.00**

Understand developmental processes children progress through to learn math, science and social study skills. Develop, sequence topics and learning activities in math, science and social studies/anti-bias curriculum for young children.

307-109A
Social Studies-Antibias **1.00**

Students completing this course will understand developmental processes children progress through to learn social studies. They will also develop sequence topics and learning activities in social studies for young children.

307-109B
Science-Antibias **1.00**

Understand developmental processes children progress through to learn science. Develop sequence topics and learning activities in science for young children.

307-109C
Math - Antibias **1.00**

Understand developmental processes children progress through to learn math. Develop, sequence topics and learning activities in math for young children.

307-110
Creative Arts for the Young Child **2.00**

Prepares students to plan and implement the creative arts component of an early childhood program. Create the physical and interpersonal environment which promotes creativity and self-expression of children.

307-110A
Art Young Child **1.00**

Prepares students to plan and implement art activities in an early childhood program. Create the physical and interpersonal environment which promotes creativity and self-expression of children.

307-110B
Music, Movement, Drama - Young Child **1.00**

Prepares students to plan and implement music, movement, and drama activities in an early childhood program. Create the physical and interpersonal environment which promotes creativity and self-expression of children.

307-111
Children's Literature and Language **2.00**

Role of literature and language arts in early childhood programs and child's development, appreciation and ability for self expression.

307-112
Supervised Student Teaching and Seminar **5.00**

Opportunity for interaction with young children as a teacher in one early childhood program. Practical experience to apply acquired knowledge.

307-113
Infant and Toddler Care **2.00**

Development, care, stimulation, environment, licensing rules and regulations as they affect infant and toddler care.

307-114
Exceptional Child **2.00**

Interpretation of various types of exceptionality among children and special procedures, materials and facilities necessary for teaching children with exceptional needs.

307-116
Teachers and Family Partnerships **2.00**

Understand dynamics of family interaction and effects upon children, formal and informal communications with parents, involving parents in programs and community resources available.

307-117
School Age Child **1.00**

Become familiar with developmental and individual needs of children aged 5-10 years, licensing regulations for school age programs, environments and activities for individual, small or large groups.

307-119
Creative Play Experiences **2.00**

Prepares students to understand the significance and value of spontaneous and self-directed play of young children. Plan indoor and outdoor environments, select equipment and materials, design experiences, interact with children to promote growth and development through play.

307-120
CDA Credential **2.00**

Students will gain an understanding of the CDA credentialing process: registration, assessment request, selecting a local assessment team and completion of portfolio. The portfolio contains evidence of student's competence in each of the 13 functional areas.

307-122
Early Childhood/Professional Growth in **4.00**

Discussion and analysis of current issues and ethical dilemmas in the early childhood profession. Students will practice and refine techniques for teaching, directing, or managing an early childhood program.

307-123
Early Childhood I **2.00**

Learn licensing regulations, principles of growth and development, program design and environments, interactions with children, relationships among staff. Meets DHSS certification for assistant teacher.

307-124
Introduction to Early Childhood Education **2.00**

This course introduces learners to the early childhood education profession and provides opportunities to examine the principles of developmentally appropriate curriculum. Learners examine types of early childhood education settings, the history of early childhood education, legal and ethical responsibilities of early childhood educational professionals, and early childhood education professional organizations. Learners will assess their ability to work in this profession and initiate development of a professional plan.

307-125
Inclusive Classroom/The **2.00**

Define the reality of including special needs children in a program with typically developing children. Establish criteria for redesigning environments and adapting learning activities. Special focus will be placed on developing strategies for working with children with challenging behaviors.

307-126
Resources/Collaboration Children With Special Needs **2.00**

Detail the process of identification, referral and assessment of children with special needs. Stages of family reaction and family support systems will be identified. Community agencies may present resources available to families and teachers. The role of the teacher in achieving effective collaboration among all involved agencies will be defined.

307-127
Introduction to Early Childhood Education **3.00**

This course introduces learners to the early childhood education profession and provides opportunities to examine the principles of developmentally appropriate curriculum. Learners examine types of early childhood education settings, the history of early childhood education, legal and ethical responsibilities of early childhood educational professionals, and early childhood education professional organizations. Learners will assess their ability to work in this profession and initiate development of a professional plan.

307-128
Portfolio Assessment **1.00**

Students will develop a meaningful portfolio for each child in their classroom. Portfolios will feature each child's strengths and capabilities and support parents' confidence in their child's abilities.

307-129
Behavior Challenges **1.00**

In this course, students learn methods of support and intervention that teachers use to promote children's understanding, appropriate expression of their emotions, and competent social interaction skills.

307-131
Early Childhood Teacher Seminar **2.00**

This seminar is designed for experienced early childhood teachers skilled in developmentally appropriate practice, who seek further knowledge, skills, and concepts in mentoring other adults (proteges). The seminar examines key elements in teachers' professional and adult development as they explore new roles as mentors. Among topics addressed are: improving communications, conferencing skills, effective observation and environmental assessment, reflective practice and goal setting, culturally relevant anti-bias education among teachers, children and families, the process of change and leadership/advocacy development.

307-132
Child Care Mentors and Proteges **3.00**

This course is designed for mentor teachers and their proteges in early childhood settings to examine critical elements and theories of mentoring as they consider their own situations. The course structure includes both seminar and fieldwork. In the seminar, mentors and proteges will examine the following topics: observation and assessment of environments, classroom management, planning and implementing curriculum, stress management, diversity, conflict resolution, reflective practice, goal setting, communication and team building, adult learning styles, professional and leadership development.

307-133
Issues in Infant Toddler Care **1.00**

Students in this course will explore the implications of brain development research on infant-toddler care giving practices. They will also examine culturally appropriate and inclusive practices for group and family child care settings.

307-134
Programs, Family, & Society **3.00**

Students in this course will explore ways in which caregiver-family partnerships are built and supported. They will also identify the challenges and opportunities for collaboration in infant- toddler care and define professionalism for caregivers in group and family child care settings.

307-135
Infant Toddler Capstone Experience 3.00

Students complete 6 hours per week of field placement in a regulated infant toddler setting (group or family child care). Students will demonstrate best practices and prepare a portfolio forfinal assessment prior to being awarded the Infant Toddler Credential.

307-136
Early Childhood/Professional Growth in **3.00**

Discussion and analysis of current issues and ethical dilemmas in the early childhood profession. Students will practice and refine techniques for teaching, directing, or managing an early childhood program.

307-137
Family Child Care **3.00**

Plan a licensed family child care considering management skills, legal and financial issues, equipment and educational needs of young children.

307-138
Project Work **1.00**

Students will learn to use Project Work in an early childhood classroom by hands-on planning and documenting a project.

307-139
Behavior Challenges **1.00**

This course covers methods of support and intervention teachers use to promote

children's understanding and appropriate expression of their emotions and competent social interaction skills.

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.

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.

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.

307-150
Emerging Literacy **3.00**

This three credit course focuses on the role of the teacher in supporting the emerging literacy of all children. Course competencies include: use developmentally appropriate strategies that support emerging literacy as a source of enjoyment; promote vocabulary and language development; promote phonological awareness; increase children's knowledge of print; promote children's knowledge of letters and words; build children's comprehension skills; and promote understanding of books and other texts.

307-151
ECE: Infant & 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.

307-167
ECE: Health, Safety, & 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.

307-167B
ECE: Safety **1.00**

This one credit course examines the topics of safety within the context of the early childhood educational setting. Course competencies include: follow governmental regulations and professional standards as they apply to safety; provide a safe early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; and incorporate safety concepts into the children's curriculum.

307-174
ECE: Practicum 1 **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.

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 strategiesthat 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.

307-187
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 developmentaldifferences; 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.

307-194
ECE: Math, Science, & 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.

307-194A
ECE: Math **1.00**

This one credit course will focus on beginning level curriculum development in the specific area of math. Course competencies include: develop activity plans that promote child development and learning; create developmentally appropriate math 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.

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: Practicum 4 **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 programsfor quality; and explore professional options in early childhood education.

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.

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.

316-108
Commercial Food Operations **2.00**

Field trips to include a cross section of food services. Classroom discussions include evaluation and student observation of the different food services. Students write reports on the different establishments and a term paper on some phase of food service operation.

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.

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 coldfoods, prepare beverages and keep a flow of foods in the service line.

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.

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.

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 Manger **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.

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 finalproject, 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.

316-158
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 andvent 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**

Regrigeration componenets 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.

402-120
Aeronautical Decision Making **2.00**

The student will apply the theories and procedures learned in Aviation Safety in simulated and actual flight conditions. Analysis and evaluation of student actions, individual and as a flight crew, will be completed for each flight scenario.

402-122
Aircraft Systems-Advanced **3.00**

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.

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.

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.

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.

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.

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.

402-138
Aero Science Aviation Safety **3.00**

This course will develop the student's awareness of accident prevention. Topics will include an in-depth study of human and weather factors, accident investigation and development of safety programs.

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.

402-145
Flight/Certified Flight Instructor Airplane **2.00**
Prepares the commercial rated pilot for the FAA flight instructor airplane certificate.

402-146
Flight Certified Instructor Instrument **1.00**
Prepares the CFI for the addition of an instrument instructor rating to the flight instructor certificate.

402-150
Flight Internship **3.00**
The internship experience will give the student insight into the working world of aviation. A wide variety of job situations may be acceptable to meet the objective of this course. Cooperatively, the studentand employer will identify a proper work site and structure the experience to meet the needs and abilities of the student. This experience may or may not be a paid position.

402-166
Aeronautical Skills Development **1.00**
This flight course will prepare the student for the completion of an FAA certificate or rating.

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.

402-173
Professional Piloting II **2.00**
This is the second course 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 instrument rating to the student's existing private pilot certificate. Flight instruction will be conducted in a multi-engine aircraft.

402-175
Professional Piloting III **2.00**
This is the third course in a series of four courses approved as an FAA Part 141 combined commercial/instrument certification course. This course will focus on the student's gaining cross- country experience in a multi-engine aircraft.

402-177
Professional Piloting IV **2.00**
This is the fourth course in a series of courses approved as an FAA Part 141 combined commercial/ instrument certification course. This course will focus on gaining the required skills necessary to meet the requirements of the FAA Commercial Pilot Certification, both single and multi-engine.

402-303
AC Welding Fundamentals **1.00**
This course covers the fundamentals of welding. Welding, soldering, brazing, and fabrication of various metals is included.

402-331
AC Maintenance Procedures Fundamentals **4.00**
This combined lecture/lab course covers the fundamentals of aircraft repair. Aircraft hardware and materials, print reading, and ground operations are included.

402-332
AC Documentation & Inspection **3.00**
This combined lecture/lab course covers fundamentals of aircraft inspection. Corrosion control, weight and balance, maintenance forms and publication, and technician privileges and limitations are included.

402-340
AC Airframe Systems I **3.00**
This combined lecture/lab course covers airframe systems. Fire protection, cabin atmospheric control, and ice and rain protection are included.

402-341
AC Structural Materials I **4.00**
This combined lecture/lab course covers airframe non-metallic coverings and materials. Fabric, composite and bonded materials, and aircraft painting are included.

402-342
AC Airframe Systems II **4.00**
This combined lecture/lab course covers airframe fuel, landing gear, hydraulic, and position and warning systems.

402-343
AC Structural Materials II **3.00**
This combined lecture/lab course covers the fundamentals of aircraft sheet metal construction and repair.

402-344
AC Avionics & Instrumentation **2.00**
This combined lecture/lab course covers the basics of aircraft instrument and navigation systems. Basic and advanced aircraft control instruments, communications, navigation system operation, installation, and troubleshooting are covered.

402-345
AC AF Electricity and Electronics **2.00**
This combined lecture/lab course covers airframe electrical systems. Fundamentals of aircraft electrical system wiring, protection and control, and charging are included.

402-346
AC AF Maintenance and Service **3.00**
This combined lecture/lab course covers aircraft inspection procedures. Topics include aircraft control surface rigging, airframe conformity, and repair.

402-350
AC Reciprocating Powerplants **4.00**
This combined lecture/lab course covers the fundamentals of reciprocating powerplants. Operating principles, installation, overhaul, and repair of reciprocating powerplants and related systems are included.

402-351
AC Turbine Powerplants **4.00**
This combined lecture/lab course covers the fundamentals of turbine powerplants. Operating principles, inspection and overhaul, and repair procedures are included.

402-352
AC Ignition and Starting Systems **2.00**
This combined lecture/lab course covers turbine and reciprocating powerplant ignition and starting systems.

402-353
AC Fuel Metering Systems 2.00
This combined lecture/lab course covers the basics of powerplant fuel systems. Fuel metering, induction, and instrumentation are included.

402-354
AC Powerplant Systems 4.00
This combined lecture/lab course covers powerplant indicating and protection systems. Electrical, instruments, fire protection, and auxiliary power units are included.

402-355
AC Propellers 3.00
This combined lecture/lab course covers the fundamentals of aircraft propellers. Propeller control, inspection, and repair are included.

402-356
AC PP Maintenance and Service 3.00
This combined lecture/lab course covers powerplant inspection procedures. Topics include removal and installation and conformity checks of turbine and reciprocating powerplants.

403-338
Blueprint Reading Power House 1.00
Footings and foundations, floor plans, elevations, below-grade piping, above-grade piping, isometric piping diagrams, schedules and details, electrical floor plans, ventilating and air conditioning.

404-300
Auto Mechanics/Fundamentals 2.00
Topics covered in classroom lecture and automotive shop laboratory experience include basic mechanics, welding fundamentals, automotive shop fundamentals, hand tools, fasteners, cutting, shaping of metal, sharpening of cutting tools, use of measuring tools, electrical wiring repair and related shop safety procedures.

404-310
Service Simulation I - Brakes/ Heat and Air Conditioning 1.00
This course will allow the students to perform acquired skills in the areas of brakes, heating and air conditioning. The affected repairs are to be done on customers' vehicles, simulating a shop environment. A strong emphasis will be placed on customer relations and communications.

404-311
Auto Cooling Systems/Heating 2.00
The diagnosis and repairs of AC systems, components, accessories and the diagnosis and repair of heating and engine cooling systems will be covered.

404-312
Auto Electricity/Basic 2.00
This course will cover batteries, charging systems, and starting systems as they relate to the automobile. Also covers the support wiring systems with the systematic test procedures and use of the wiring diagrams.

404-313
Service Simulation II - Electricity/ Alignment/ Suspension 1.00
This course will allow the students to perform acquired skills in the areas of electricity, alignment and suspension. The affected repairs are to be done on customer's vehicles, simulating a shop environment. A strong emphasis will be placed on customer relations and communications.

404-314
Engine Fundamentals 2.00
A study of the various automotive engine power plants and their related support systems. It covers the effects of support systems on induction and exhaust systems and the basic engine mechanical relationships. Diagnosis and testing will be covered.

404-315
Auto Fuel Systems Basic 3.00
Covers theory of air fuel mixing devices, carburetion and injections. Also covered will be fuel storage delivery devices and plumbing.

404-316
Service Simulation Fuel Systems/ Engine 1.00
This course will allow the students to perform acquired skills in the areas of engines and fuel systems. The affected repairs are to be done on customer's vehicles, simulating a shop environment. A strong emphasis is placed on customer relations and communications.

404-317
Auto Emission Systems 2.00
Covers the basic diagnosis and repair of the exhaust systems, and emission systems including the support systems that effect the emissions. The testing will be done by the use of the two-gas analyzer.

404-318
Auto Engine Electrical Systems 2.00
Covers the ignition system diagnosis and repair including wiring and sensing devices for both conventional and electronic ignition systems also gives a brief introduction to computerized ignitionsystems.

404-319
Service Simulation IV Emission/ Engine Electrical 1.00
Covers service procedures and actual shop simulation of the materials covered in the emissions/engine electrical courses.

404-321
Alignment/Suspension 2.00
Covers wheels, tires and alignment systems both front and rear wheel drive. Also covers the diagnosis, adjustment and repair of steering and suspension systems and their related parts.

404-360A
Service Simulation I Brakes 1 Cr 1.00
This course will allow the students to perform acquired skills in the areas of brakes. The affected repairs are to be done on customers' vehicles, simulating a shop environment. A strong emphasis placed on customer relations and communications.

404-360B
Service Simulation I Heating/ AC 1 Cr 1.00
This course will allow the students to perform acquired skills in the areas of heating and air conditioning. The affected repairs are to be done on customers' vehicles, simulating a shop environment. A strong emphasis placed on customer communications.

404-361A
Service Simulation II Electricity 1 Cr 1.00
This course will allow the students to perform acquired skills in the areas of electricity. The affected repairs are to be done on customers' vehicles, simulating a shop environment. Astrong emphasis placed on customer relations and communications.

404-361B
Service Simulation II Alignment/ Suspension 1 Cr **1.00**

This course will allow the student to perform acquired skills in the areas of alignment and suspension. The affected repairs are to be done on customers' vehicles, simulating a shop environment. A strong emphasis placed on customer relations and communications.

404-371
Automotive Internship II **2.00**

The student, through direct occupational experience, will demonstrate the program competencies in the areas of electricity, alignment, suspension, and customer relations.

404-372
Automotive Internship III **2.00**

The student, through direct occupational experience, will demonstrate the program competencies in the areas of engines, fuel systems, and customer relations.

404-373
Automotive Internship IV **2.00**

The student, through direct occupation experience, will demonstrate the program competencies in the areas of emissions, engine electrical and customer relations.

404-510
Automotive Systems Part 1: Mechanical Fundamentals **1.00**

Topics covered in classroom lecture and automotive shop laboratory experience include basic mechanics, welding fundamentals, automotive shop fundamentals, hand tools, fasteners, cutting, shaping of metal, sharpening of cutting tools, use of measuring tools, electrical wiring repair, and related shop safety procedures.

404-515
Automotive Systems Part 2: Information Fundamentals **0.50**

This course will explore service reference materials and their applications. Both computer and hardcopy references will be utilized. Students will write work orders using both written and electronic forms. Parts ordering will be explained using both written and electronic formats. Inventory control methods will be discussed.

404-520
Automotive Electrical Systems Part 1: Basic Wiring and Meters **1.00**

This course covers the support wiring systems with the systematic test procedures and use of the wiring diagrams. It will cover all types of meters, standards DVOMs, graphing DVOMs, and labscope.

404-525
Automotive Electrical Systems Part 2: Troubleshooting **1.00**

This course covers the electrical safety and accessory systems used on automobiles and light trucks. Emphasis is placed on circuit operation, testing, and diagnosis.

404-530
Automotive Starting, Charging, and Ignition Systems: Part 1 - Testing **1.00**

This course covers basic auto electrical circuit diagnosis, battery, starting and charging systems, ignition systems (including conventional and electronic), and an introduction to computerized ignition systems.

404-535
Automotive Starting & Charging Systems Part 2: Overhaul **1.00**

This course will cover bench testing of alternators and starters. Students will be required to overhaul a variety of alternators and starters.

404-540
Automotive Engines Part 1: Theory of Engine Operations **1.00**

This course is a study of the various engine power plants and their related support systems. It covers the effects of support systems on induction and exhaust systems andthe basic engine mechanical relationships. Diagnosis and testing will be covered.

404-545
Automotive Engines Part 2: Engine Inspection and Repair **1.00**

This course will allow the student to perform acquired skills in the areas of major engine repair. The affected repairs are to be done on customer vehicles, simulating ashop environment. A strong emphasis will be placed on customer relations and communication.

408-500
Brick Masonry Technology I **2.00**

408-510
Brick Masonry Technology II **2.00**

408-520
Brick Masonry Technology III **2.00**

408-530
Brick Masonry Technology IV **2.00**

408-540
Brick Masonry Technology V **2.00**

408-550
Brick Masonry Technology VI **2.00**

408-580
Math and Blueprint Reading I for Bricklayers **0.50**

408-583
Math and Blueprint Reading II for Bricklayers **0.50**

408-584
Math and Blueprint Reading III for Bricklayers **0.50**

408-585
Math and Blueprint Reading IV for Bricklayers **0.50**

408-586
Math and Blueprint Reading V for Bricklayers **0.50**

408-587
Math and Blueprint Reading VI for Bricklayers **0.50**

408-591
Cement Mason Technician I **2.00**

Students will cover the following subject areas: history of trade, basic safety and first aid, measuring and estimating. Math and blueprint reading will be integrated into appropriate subject areas.

408-592
Cement Mason Technician II **2.00**

Students will study the following subject areas: ingredients of concrete, designing mixes, admixtures, specs and testing, tools, and miscellaneous equipment. Math and blueprint reading will be integrated into appropriate subject areas.

408-593
Cement Mason Technician III **2.00**

Students will study leveling instruments, edge forms, on-grade curb and gutters, screeds, bulkheads, placing and leveling of concrete. Math and blueprint reading will be integrated into appropriate subject areas.

408-594
Cement Mason Technician IV 2.00
Students will study the following subject areas: floors, roofs, steps, sidewalks and patios. Math and blueprint reading will be integrated into appropriate subject areas.

408-595
Cement Mason Technician V 2.00
Student will study the following subject areas: drives, approaches, curbs and gutters, pavements, concrete bases, tilt-up panels, precast and lift slabs. Math and blueprint readings will be integrated into appropriate subject areas.

408-596
Cement Mason Technician VI 2.00
The following subject areas will be covered: concrete joints, curing of concrete, protection, surface defects, patching, grinding, rubbing and sacking. Math and blueprint reading will be integrated into appropriate subject areas.

410-500
Carpentry I/Related 2.00
This course covers math related to carpentry, use of the framing square and its tables for layout and the fundamentals of BPR.

410-500A
Carpentry I Related - 36 Hr 1.00

410-501
Carpentry II/Related 2.00
This course addresses the principles of site development and building layout and the various principles involved in building foundations and footings.

410-502
Carpentry III/Related 2.00
This course addresses the principles of floor and wall construction for both residential and commercial considerations.

410-503
Carpentry IV/Related 2.00
This course covers the principles of roof framing including architectural drafting of plan and elevation views for roofs. It also covers the principles of layout and cutting of all roof framing members for both equal and unequal pitch roofs.

410-504
Carpentry V/Related 2.00
This course covers exterior trim considerations, including roofing, siding, and exterior windows and doors. It also includes an introduction to the principles of stair construction.

410-505
Carpentry VI/Related 2.00
This course continues the principles of stair construction and addresses more sophisticated stair layout problems such as L-shaped, U-shaped, circular stairs. In addition, this course covers carpentry principles regarding interior finish work including door hanging, hardware, crown moldings, and various principles relating to interior finishing work.

412-101
Diesel, Intro to 3.00
Theory and laboratory experiences in this course are designed to introduce the student to the diesel systems used on today's modern trucks and construction equipment. Students develop basic knowledge of design, construction and operating principles of the diesel engine. The course emphasizes the service, maintenance and the types of repairs made on diesel engines. Introduces shop procedures, safety practices, tools and using service information.

412-102
Diesel Fuel and Emissions 3.00
This combined lecture and lab course will use the latest in diagnostic equipment to evaluate engine performance and diagnose power complaints on modern hydro-mechanical diesel fuel injection systems.

412-103
Diesel Electrical/Electronic Systems 3.00
This combined lecture and laboratory course is designed to give the student the knowledge and skills needed to diagnose, service, and repair heavy-duty electrical systems found on today's modern heavy duty trucks and off-road equipment.

412-104
Diesel Hydraulics/Pneumatics 3.00
This combined lecture and lab course prepares the student with the knowledge and skills needed to adjust, diagnose, service and repair mobile hydraulic systems found on heavy duty trucks and construction equipment.

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.

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.

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.

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.)

412-114
Diesel Heating, Cooling & Air Cond3.00
This course will develop the knowledge and skills required to troubleshoot, repair and maintain heavy duty vehicle heat-

ing, 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.

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 diagnosising and preventive maintenance prodedures will be performed on trucks and other equipment. This course will help the student prepare for ASE certification.

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 maintenanceservices. This course will help the student prepare for ASE certification.

412-117
Diesel Suspension & 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 coverd along with wheel alignment. This course will help the student prepare for ASE certification.

413-100
Industrial Electricity 3.00

Industrial electricity covers advanced electrical functions, such as: sizing, conductors, wiring methods, battery maintenance, UPS systems, low voltage and high voltage switchgear, transformers, electrical distribution, lighting, electric head, industrial electronics, and programmable controllers. This is an advanced course for the electrician who wants to learn new opportunities and challenges.

413-347
Electrical Systems Powerhouse 2.00

Basic principles of electricity, tools required to troubleshoot, principles of safety, doorbells and other low-volt systems. Utility provided power, troubleshooting power systems, motors and controllers, wiring methods, transformers, testing equipment.

413-500
Commercial Electrical Blueprint Reading 1.00

Students interpret plans for commercial type buildings in regard to the electrical installation involved. NEC requirement that pertain to commercial installation are analyzed.

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 Control1.00

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.

413-504
Electrical Equipment and Introduction to Machine Circuits 1.00

After a brief introduction to the fundamentals of electricity, this course covers wire size, insulation, connections, and wiring methods. Also covered are switches, relays, motor starters, and other control components. Machine tool control circuits are introduced along with maintenance procedures and safe working practices.

413-505
AC/DC Fundamentals Apprentice 1.00

413-506
Electrical Theory I/Construction 4.00

413-508
National Electrical Code 1.00

The principle objective is to acquaint the student with the use and contents of the National Electrical Code which is the standard for safe electrical wiring.

413-509
Motor Control/Advanced 1.50

This is a continuation of basic motor control. Developing the ability to read and draw control circuits given many control problems, using solid state devices.

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.

413-512
Logic/Basic 2.00

Basic concepts and applications of digital electronics are covered by actually wiring the circuits in the laboratory. This course covers all the basic gates, numbering systems, decoders, flip-flops, counters, registers, binary addition and subtraction, karnaugh mapping, and shift registers.

413-513
Logic/Advanced 2.00

This is a continuation of basic logic going into additional gates, basic laws of Boolean Algebra, 1's and 2's complement, multiplying and dividing, digital to analog and analog to digital, digital control, comparator, memory and read/write 4-bit word, using digiac 3010 and 4010 logic trainers.

413-514
Programmable Logic Controllers/ Basic 2.00

This course will cover the four major sections of a programmable controller, the data table and program language. Upon completion, the student will convert, enter, edit, and troubleshoot basic ladder programs. They will use basic relay type instructions, timer/counters instructions.

413-515
Programmable Logic Controllers/ Advanced **2.00**

This program will cover data manipulation and comparison instructions, basic math instructions and block instructions. These block instructions include file moves, sequencers and block transfers. Special programming techniques will also be covered.

413-516
Electrical Theory II/Construction **4.00**

413-517
Microprocessor/Understanding and Troubleshooting **4.00**

This course is to dispel the mystery that surrounds microprocessors and microprocessor systems. Each element of the MP is analyzed to show what it must do, how it is organized to accomplish its function, and how to check it when trouble develops using the 8080 MP on the MMD-1 trainer and the 8085 MP on the Hewlett Packard trainer.

413-518
Microprocessor Applications **4.00**

This course shows practical ways to adopt and utilize the power of the MP. Completely covered are temperature, light, position, motion, force, pressure, flow and level sensors and transducers. Alsocovered are control devices, and motors including transistor arrays, SCR's, triac's, relays, DC motors, stepper motors, and phase-locked loops using the 6808 MP.

413-519
Microprocessors/Advanced **4.00**

This course provides an in-depth study of 16-bit MP's including terms, architecture, programming, interfacing, assembly language, addressing modes, memory, logic and control lines, dynamic and static ram, and input/output interfacing using the 8088 MP.

413-520
National Electric Code Updates **0.50**

This course comprehensively covers the National Electric Code revisions. It is designed to acquaint the student with the current year's revisions/updates/changes with NEC calculations, NEC theory, and NEC content. This program explains the strategies of taking an exam regarding the revisions to the NEC and prepares you to take the Journeyman or Masters Electrical Exam.

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.

413-523
Fiber Optics **4.00**

This is a basic course to give the electrician an understanding and respect for the care and ever widening use of fiber optic cable to connect and control electrical equipment. It covers safety, the physics of optical energy and components such as mirrors, lenses, and prisms. The development, construction and characteristics of fiber optic cable, light sources, receivers and systems are also studied.

413-524
Robotics **4.00**

This is a practical application of the microprocessor along with other electrical and mechanical components utilized in robots and automated systems. The course covers the essential terminology and basic operation ofrobots, various power supply systems, hydraulic system, pneumatic systems, servo systems, electric motors and mechanical drives and robot interfacing.

413-525
Electrical Code/Residential **0.50**

Load testing, losses and efficiency, voltage regulation, single and three-phase systems and auto transformers are studied and connected in the laboratory experiments.

413-526
Electrical Theory III/Construction **4.00**

413-527
AC Circuitry Trigonometry & Vectors **0.50**

This course covers angles, angular measure (in degrees and radians), angular velocity frequency, similar triangles, trigonometric functions, solutions of right triangles, law of cosines, vector addition and subtraction, vector components, and graphing trigonometric functions.

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.

413-530
Direct Current Motors and Instruments **0.50**

Direct current motors and principles of operation, kinds of DC motors and their characteristics and control, permanent magnet meter movement, ammeter and voltmeter construction, operation,care, and use, watt-meters, and Wheatstone bridges are topics covered in this course, which includes laboratory experience with DC motors.

413-531
Industrial Electronics Fundamentals **1.00**

This course is an introduction to electron-

ics, which includes semi-conductor theory and circuits, transistor theory and circuits, power supplies, integrated circuits, oscillator circuits, photosensitive devices, and pulse circuits.

413-532
Electrical Theory 1.50

Basic DC theories are reinforced by actually assembling and connecting the various circuits in the laboratory starting with Ohm's Law, simple and combination circuits, electromagnets, solenoids, and relays.

413-533
National Electrical Code/ Grounding 1.00

This course analyzes the how and why of grounding and bonding. It examines ground and bonding in virtually every article of the code in addition to the major requirements of article 250.

413-534
Electronics/Basic Apprentice 1.50

The laboratory work goes into the basics of transistors and semiconductors, where various circuits are assembled and connected starting with diode rectifiers and advancing through many different types of transistors and sensing circuits used in everyday industry. This should give the student a basic background for solid state motor control circuits.

413-535
Electronics/Advanced Apprentice 2.50

The laboratory work goes into industrial applications of electronics by actually assembling and connecting various circuits starting with thyratron controls, phase shifting, SCR controls, thermister and photoelectric controls, bridge circuits and logic gates. Students work individually at their own pace.

413-536
Electrical Theory IV/Construction 4.00

413-537
Wiring Commercial & 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 & Introduction to Programmable Logic Controllers1.00

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.

413-542
Math II/Industrial Electrician 0.50

413-543
Industrial Controls 1.00

This course is an introduction to digital and analog control of industrial machines.

413-544
Motor Control Industrial 1.25

This course provides a systematic approach to the study and application of motor control. The presentation of subject matter includes: both magnetic and electronic principles; motors, starters, and pilot devices; and control circuits (including the development of both wiring diagrams and schematics). This course should enable the student to understand motors of all types and to develop the ability to draw and wire basic control circuits. Troubleshooting of these circuits is stressed.

413-545
Troubleshooting Electrical Motors 1.00

This course presents the procedures needed to locate and correct a malfunction in an electric motor quickly and efficiently. It first gives an understanding of electric motor operation. Then, it covers troubleshooting of AC (single and three phases), DC, and universal motors.

413-546
Electrical Theory V/Construction 4.00

413-547
Troubleshooting Electrical Systems 1.00

This course is a presentation of step by step applications and activities on how to troubleshoot electrical and electronic systems. Applications present information that a skilled technicianshould know in order to successfully troubleshoot electrical and electronic systems. Activities provide practical experience in troubleshooting typical circuits and applying the information studied.

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 tobe studied.

413-549
Programmable Logic Controllers II1.00

This course is an introduction to programming techniques, hardware configuration, and theory of operation of a programmable logic controller. The system to be studied is the Modicon Industrial Controller.

413-556
Electrical Theory VI/Construction 4.00

413-560
Blueprint Reading I/Industrial Wiring 0.50

A small manufacturing plant serves as the problem in a typical industrial wiring installation.

413-561
Blueprint Reading II/Commercial Wiring **0.50**

The design and installation of circuits for a small diversified commercial building is presented.

413-565
Math I/Industrial Electrician **0.50**

413-574
Math III/Industrial Electrician **0.50**

413-575
Blueprint Reading III/ Electrical Ground **0.50**

Covers grounding for safety, electrical theory applicable to grounding, faults and grounding electrode systems. Defines the difference between bonding and grounding. Also covers calculating fault currents.

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 & you get to see how prepared you are by taking simulated tests for the Journeyman or Masters Electrician Exam.

414-301
Auto Body Electricity and Service **2.00**

Knowledge of basic electricity and automotive wiring systems. Learn proper procedures and precautions for replacing electrical components. Front end alignment is covered as well as other automotive service techniques applicable to auto body repair industry.

414-303
Electronic Panel Assembly **4.00**

The students will learn electronic panel wiring, incorporating math, reading and writing skills. Hands-on training.

414-305
Electricity for Machine Repair **3.00**

Develops specific skills needed to troubleshoot, repair and/or replace inoperative or defective electrical components on typical machine shop equipment. Introduces working knowledge of machine control circuitry and programmable logic controllers.

414-340
Electricity for Machine Repair **2.00**

Develops specific skills needed to troubleshoot, repair and/or replace inoperative or defective electrical components on typical machine shop equipment. Introduces a working knowledge of machinecontrol circuitry.

414-397
Electricity/Basic **2.00**

Develops skills in measuring voltage, amperage, resistance, capacitance and inductance in electrical circuits; calculate and measure electrical power and interpret circuit diagrams.

419-315
Hydraulics/Basic **3.00**

This course will emphasize basic hydraulic principles, valves, actuators, pumps and circuits. The fundamental equations used to calculate various system parameters are introduced to the student. Graphical symbols and their use in hydraulic circuits and the ability to follow a hydraulic schematic are taught. The student will be able to design and build basic hydraulic circuits upon successful completion of this course.

419-317
Hydraulic Circuits II **3.00**

This course is a continuation of Hydraulic Circuits I. The student will design and build more advanced hydraulic circuits using a variety of pressure and flow control valves. They will study and analyzethe effects of various control valve applications.

419-318
Hydraulic Components **3.00**

This course will emphasize the disassembly and repair of hydraulic cylinders, motors, pumps and valves. The student will also make calculations to determine the proper component selection for various fluid power systems.

419-320
Pneumatics I **3.00**

This course will emphasize the basic design and principles of pneumatic valves and circuits. A variety of pneumatic circuits will be constructed by the student to learn the use of valves and actuators. Types of air compressors and their applications, along with practical system design will be learned by the student.

419-321
Pneumatics II **3.00**

This course will emphasize the disassembly and repair of air compressors, filters, regulators, lubricators and air tools. In this course you will run air compressor efficiency tests and analyze the results.

419-321A
Pneumatics II - 36 Hrs **1.00**

This course introduces the student to all the basic concepts without going into detail and applications.

419-323
Fluid Power Introduction **3.00**

Operation and repair of hydraulic and pneumatic assemblies, cylinders, valves, hoses, etc. and applications to industrial equipment and machinery. Students will be required to furnish tools, safety glasses, and a hand calculator capable of trigonometric functions.

419-324
Electrohydraulic Circuits I **3.00**

This course will emphasize the basic design, wiring and repair of electrohydraulic circuits. Practical ways are shown using switches, relays, solenoid valves and other electrical components that canbe used to control fluid power circuits. The student will design electrical ladder diagrams using JIC graphic symbols and will build and troubleshoot the circuits in a fluid power lab.

419-325
Electrohydraulic Circuits II **3.00**

This course is a continuation of electrohydraulics that deals with advanced ladder diagrams, proportional and servo control valve principles, and introduces PLC control of fluid power circuits.

419-326
Hydraulic Circuits **3.00**

This course will emphasize hydraulic accumulators, pressure control valves, and their effect on system performance. This course expands on the knowledge gained in previous courses.

419-340
Fluid Power/Introduction to **2.00**

Operation and repair of hydraulic and pneumatic assemblies, cylinders, valves, hoses, etc. and their applications to industrial equipment and machinery. Students

will be required to furnish tools, safety glasses and a hard calculator capable of trigonometric functions.

419-500
Hydraulics Apprenticeship 1.50
Apprentice will learn hydraulics, pneumatics and electrical hardware by use of videotapes, reference material, and computer simulation software.

419-511
Hydraulic Pumps Apprenticeship 1.00
The student will be able to design hydraulic pumps using a variety of pressure and flow control valves.

419-512
Hydraulic Controls Apprenticeship1.00
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.

419-554
Servo & Proportional Valves/Basic1.00
This course covers the equipment necessary for open and closed loop control of fluids in both flow and level environments. Strategies include feedback (proportional, integral, derivative), feed forward, ratio, cascade, and adaptive control.

419-561
Pneumatics I 1.50
Learning is accomplished with lecture and laboratory using hydraulic, pneumatic, and electrical hardware, videotapes, multi-media interactive video, reference books, and computer simulation software.

419-562
Hydraulic Circuits 1.00
The student will be able to design more advanced hydraulic circuits using a variety of pressure and flow control valves. The student will study and analyze the effects of various control valve applications.

419-563
Hydraulic Components 1.00
This course will analyze the disassembly and repair of hydraulic cylinders, motors, pumps and valves. The student will be able to make calculations to determine the proper component selection for various fluid power systems.

419-564
Servo & Proportional Valves/ Advanced 1.00
Students in this course will define and describe the different types of servo-control valves and proportional valves. They will understand the methods used to control these valves and connect various circuits to make them operational. Through laboratory experiments, they will learn the difference between open-loop and closed-loop controls.

419-566
Pneumatics II 1.00
This course will emphasize the advanced design and principles of pneumatic valves and circuits. A variety of pneumatic circuits will be constructed by the students to learn the use of valves and actuators. The students will learn types of air compressors and their applications, along with practical system design.

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.

419-568
Basic Hydraulics Intermediate 1.00
Students study basic hydraulic systems and the proper use of components to achieve proper operation. This course will cover a more in depth study of various hydraulic components, including pump tests.

419-570
Fluid Power - Apprentice 1.00
This course introduces the student to all the basic concepts without going into detail and applications.

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.

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.

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.

420-347
Advanced Measurement and Gauging 2.00
Students will learn to apply geometric dimensions and tolerances to actual measurements of machined parts. Measuring instruments to be utilized for part measurements will be analog and digitalmeasuring instruments, including various types of micometers, calipers, scales, gauges, and optical comparators, with an emphasis on proficiency, as determined by industry standards and expectations.

420-371
Machine Shop Fundamentals (1A) 3.00
This course provides an introduction to the Machine Tool Technician program. In addition to safety, topics include the use

of rules, micrometers, vernier measurement, indirect and angular measurement, sawing machines and procedures, and layout tools and procedures. Students will also learn about the selection and use of files and screw thread identification and procedures.

420-372
Machine Shop Basic Applications (1B) 3.00
This course covers such topics as types of metals and alloys, defining and calculating speed and feed rates, drill press procedures, cutting tools, holding devices, setups, and operations.

420-373
Turning Fundamentals - Manual (2A) 3.00
This course covers lathe safety, lathe identification, lathe construction and controls, lathe maintenance, lathe accessories, lathe workholding devices, lathe cutting tools, grinding and sharpening of lathe cutters, and lathe machining speeds and feeds.

420-374
Turning Applications - Manual (2B) 3.00
This course covers O.D. and I.D. turning operations in manual lathes holding parts between centers and in chucks. Operations include turning, facing, drilling, reaming, tapping, grooving, chamfering, boring, knurling, tapering, and thread cutting.

420-375
Milling Fundamentals - Manual (3A) 3.00
Students will learn the principles of milling operations. This course will cover safety, terminology, and types of milling machines. It also covers the proper use and care of various cutters, including indexable carbide cutters, and an introduction to set-up of a milling machine and its basic operations.

420-376
Milling Applications - Manual (3B) 3.00
This course covers various milling substances. The student will learn and perform various operations to produce slots, steps, angles, and holes to print specifications. The student will alsodemonstrate the proper use and care of accessories such as edge finders, digital readouts, dial indicators, and boring heads. An introduction to CNC (Computer Numerical Control) milling machines is included.

420-377
Advanced Manual Machining (4) 4.00
This course will cover advanced manual manufacturing techniques and practices, such as proper use and care of sine plates, steady rests, special milling cutters, and dividing heads. Students will use carbide insert tooling in advanced turning applications. Safety and the proper procedures for operation of surface grinders are also taught. Students gain experience in building a multi-piece assembly involving fits and tolerances, using all machine shop techniques learned.

420-502
Machine Shop for Metal Trades 2.00
This course will cover the basics of the machine shop as it applies/relates to other machine trade apprenticeship programs.

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.

420-507
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.

420-542
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 0.50
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.

421-323
Mechanical/CAD Drafting Advanced III 2.00
Students will draw single line, double line orthographic pipe and isometric single line drawings using CAD. Basic sheet metal shapes will be drawn using AutoCAD or the board.

421-323A
Mechanical/CAD Drafting Advanced IIIA 1.00
Students will draw single line orthographic drawing of piping using AutoCAD program.

421-323B
Mechanical/CAD Drafting Advanced IIIB 1.00
Students will draw isometric single line piping and double line orthographic piping drawings using AutoCAD.

421-325
Electromechanical Device Design 2.00
Studies the operating principles, applications and characteristics of various electromechanical power and control devices used in industrial applications with emphasis on design and safety.

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 toleranc-ing (GD&T).

421-397
Metric Print Interpretation 1.00
The basic principles of metric print interpretation will be taught using a lecture/lab arrangement.

421-501
3-D Interpretations Apprentice 1.00
Learning is accomplished by using a combination of lecture and practical lab assignments. Principles of 3-D interpretation will be pursued.

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 simplemechanisms 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.

421-520
Blueprint Interpretation 0.50
Learning is accomplished by using a combination of lecture and practical lab assignments. Principles of blueprint interpretation will be pursued.

422-310
Metallurgy/ Machine Tool/ Iron/ Steel Alloy 1.00
The Machine Shop students are introduced to the science of metals and alloys. The crystalline structure and microstructure of metals and their effect on the properties of metals arestudied. Prime consideration is given to heat treatment operations dealing with ferrous metals.

422-505
Metal Science and Basic Heat Treat 1.00

423-500
Millwright Apprentice 1 4.00
Course is designed to provide the millwright apprentice with the necessary related instruction to become a competent journey level worker. Subjects dealing with the necessary BPR and trade theory are studied.

423-505
Millwright Apprentice 2 4.00
This course is designed to provide the millwright apprentice with the necessary related instruction to become a competent journey level worker. Subjects with the necessary BPR and trade theory are studied.

423-510
Millwright Trade Theory 1.00

423-515
Millwright Apprentice 3 4.00
Course is designed to provide the millwright apprentice with the necessary related instruction to become a competent journey level worker. Subjects with the necessary BPR and trade theory are studied.

423-520
Millwright Apprentice 4 4.00
Course is designed to provide the millwright apprentice with the necessary related instruction to become a competent journey level worker. Subjects with the necessary BPR and trade theory are studied.

423-525
Millwright Apprentice 5 4.00
Course is designed to provide the millwright apprentice with the necessary related instruction to become a competent journey level worker. Subjects dealing with the necessary BPR and trade theory are studied.

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 & 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.

424-501
Drywall Texture, Spraying, and Alternate Techniques **2.00**
This course covers spray painting safety, conventional spray paint equipment, air compressors, texture spray materials, texture spray equipment, texture spray techniques, trade math, and blueprint reading estimation.

424-502
Drywall History, Terminology, Safety, Tools, and Taping **2.00**
This course covers trade history, safety overview, trade terminology, drywall finishing tools, types of gypsum board, filling compounds, preparations, hand embedding, filling by hand broad knife and trowel, automatic taping tools, finishing boxes, repair, and correction texturing.

424-503
Drywall Finishing **1.00**
This course will allow students to complete their required course hours and take and pass the drywall taping and finishing final exam.

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 spraypainting. 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.

424-516
Painting & Decorating VII **1.00**
This course allows students to finish incomplete program material, learn special decorative (faux) finishes, and complete the final three year exam in painting and decorating.

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**

427-506
Math I/Plumbers **0.50**

427-507
Math II/Plumbers **0.50**

427-508
Math III/Plumbers **0.50**

427-509
Waste Vent & 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.

427-510
Blueprint Reading I/Plumbers **0.50**

427-511
Blueprint Reading II/Plumber **0.50**

427-512
Blueprint Reading III/Plumbers

427-514
Plumbing Related 8 **1.00**
This course is a continuation of the Plumbing Apprentice's Day School Instruction. It is a half semester course to enable the Plumbing Apprentice to reach the required

440 hours of paid related instruction. The subject matter will be a review of Plumbing Code to prepare the apprentice for the Final Exam, which is an all-day mock Journeyman Plumbers Exam.

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.

427-579
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**

432-512
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**

432-580
Math and Blueprint Reading I/ Sheet Metal **0.50**

432-581
Math and Blueprint Reading II/ Sheet Metal **0.50**

432-582
Math and Blueprint Reading III/ Sheet Metal **0.50**

432-583
Math and Blueprint Reading IV/ Sheet Metal **0.50**

432-584
Math and Blueprint Reading V/ Sheet Metal **0.50**

432-585
Math and Blueprint Reading VI / Sheet Metal **0.50**

435-100
Piping Fundamentals **1.00**

Piping fundamentals will introduce the student to basic plumbing/pipefitter skills and the Wisconsin Administrative Plumbing Code. This course will use a combination of lecture and laboratory projects to deliver information on the joining and installation of various types of piping, installation of fixtures, installation of faucets, and the repair of these items.

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 onthe 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.

439-52
Die Making Apprentice **1.50**

439-530
Die Making/Apprentice **1.00**

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.

442-314
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.

442-321A
Welding/GMAW Part 1 of 3 **1.00**

This course instructs in the basic set up and operations of gas metal arc welding machines and plasma cutting machines.

442-321B
Welding/GMAW Part 2 of 3 **1.00**

This course instructs in the basic set up and operations of the gas metal arc welding machine and plasma cutting machine. weld in horizontal position.

442-321C
Welding/GMAW Part 3 of 3 **1.00**

This course instructs in the basic set-up and operations of the gas metal arc welding machines and plasma cutting machines.

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.

442-322A
Welding/SMAW Part 1 of 3 **1.00**

Instructs in basic safety, equipment usages and procedures with five basic welding electrodes in two basic weld positions.

442-322B
Welding/SMAW Part 2 of 3 **1.00**

Instructs in basic safety equipment usages and procedures with five basic welding electrodes in one weld position.

442-322C
Welding/SMAW Part 3 of 3 **1.00**

Instructs in basic safety equipment usages and procedures with five basic welding electrodes in two basic weld positions. Provides for simulated A.W.S. certification tests.

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 experienceas well as technical information.

442-323A
Welding/GTAW Part 1 of 3 1.00

(GTAW, TIG, Heli-Arc, Tungsten) Instructs in basic safety, equipment usages and procedures with various filler rods in one basic welding position. Provides considerable hands-on experience as well as technical information.

442-323B
Welding/GTAW Part 2 of 3 **1.00**

(GTAW, TIG, Heli-Arc, Tungsten) Instructs in basic safety, equipment usages and procedures with various filler rods in one basic welding position. Provides considerable hands-on experience as well as technical information.

442-323C
Welding/GTAW Part 3 of 3 **1.00**

(GTAW, TIG, Heli-Arc, Tungsten) Instructs in basic safety, equipment usages and procedures with various filler rods in one basic welding position. Provides considerable hands-on experience as well astechnical 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.

442-326A
Welding/Robotic Advanced GTAW Part 1of4 **1.00**

This course covers basic safety, equipment usage, and procedures with a Panasonic G2 series robot on programming and advanced gas metal arc welding.

442-326B
Welding/Robotic Advanced GTAW Part 2of4 **1.00**

This course covers basic safety, equipment usage, and procedures with a Panasonic G2 series robot on programming and advanced gas metal arc welding.

442-326C
Welding/Robotic Advanced GTAW Part 3of4 **1.00**

This course covers basic safety, equipment usage, and procedures with a Panasonic G2 series robot on programming and advanced gas metal arc welding.

442-326D
Welding/Robotic Advanced GTAW Part 4of4 **1.00**

This course covers basic safety, equipment usage, and procedures with a Panasonic G2 series robot on programming and advanced gas metal arc welding.

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.

442-327A
Welding/Robotic Advanced GMAW Part 1of4 **1.00**

This course covers basic safety, equip-

ment usage, and procedures with a Panasonic G2 series robot on programming and advanced gas tungsten arc welding. points. Demonstrate the use of the printer to show programs, welding data and errors.

442-327B
Welding/Robotic Advanced GMAW Part 2of4 **1.00**

This course covers basic safety, equipment usage, and procedures with a Panasonic G2 Series robot on programming and advanced gas tungsten arc welding.

442-327C
Welding/Robotic Advanced GMAW Part 3of4 **1.00**

This course covers basic safety, equipment usage, and procedures with a Panasonic G2 series robot on programming and advanced gas tungsten arc welding.

442-327D
Welding/Robotic Advanced GMAW Part 4of4 **1.00**

This course covers basic safety, equipment usage, and procedures with a Panasonic G2 series robot on programming and advanced gas tungsten arc welding.

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.

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.

442-329A
Welding/Advanced Oxyacetylene Part1of2 **1.00**

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.

442-329B
Welding/Advanced Oxyacetylene Part2of2 **1.00**

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.

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.

442-330A
Welding/Advanced SMAW Part 1 of 3 **1.00**

Provides advanced welding applications in SMAW welding with small (1/16 inch) and large (5/32 inch 3/16 inch) electrodes hardface, aluminum, structural and pipe applications.

442-330B
Welding/Advanced SMAW Part 2 of 3 **1.00**

Provides advanced welding applications in SMAW welding with small (1/16 inch) and large (5/32 inch 3/16 inch) electrodes hardface, aluminum, structural and pipe applications.

442-330C
Welding/Advanced SMAW Part 3 of 3 **1.00**

Provides advanced welding applications in SMAW welding with small (1/16 inch) and large (5/32 inch 3/16 inch) electrodes hardface, aluminum, structural and pipe applications.

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 fluxcored weld certification.

442-332A
Welding/Advanced GMAW Part 1 of 3 **1.00**

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.

442-332B
Welding/Advanced GMAW Part 2 of 3 **1.00**

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.

442-332C
Welding/Advanced GMAW Part 3 of 3 **1.00**

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.

442-333
Welding/Advanced Gas Tungsten Arc Weld **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.

442-333A
Welding/Advanced GTAW Part 1 of 3 **1.00**

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.

442-333B
Welding/Advanced GTAW Part 2 of 3 **1.00**

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.

442-333C
Welding/Advanced GTAW Part 3 of 3 **1.00**

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.

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.

442-334A
Welding/Oxyacetylene Part 1 of 3 1.00
(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.

442-334B
Welding/Oxyacetylene Part 2 of 3 1.00
(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.

442-334C
Welding/Oxyacetylene Part 3 of 3 1.00
(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.

442-342
Welding/Pipe Oxyacetylene Fitting 1.00
Provide cutting and fitting of basic pipe joints. Includes pipe layout.

442-343
Welding/Pipe Shielded Metal Arc Welding 2.00
Provide open butt SMAW welding with E6010 in 2G, 5G and 6G positions.

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.

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.

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.

442-347
Welding/Pipe Gas Metal Arc Welding 2.00
Provides open butt GMAW in 2G, 5G and 6G positions.

442-500
Welding Technology 1.00
Students will learn all safety rules and procedures regarding welding and will become familiar with the various types of gases used in welding and when to use each type for different surfaces.

442-510
Welding Fundamentals (apprentices) 1.00

442-560
Arc Welding/Fundamentals of 0.50
Safe use of shielded metal arc welding equipment will be discussed along with basic fundamental principles.

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.

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.

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.

443-314
Mechanical Systems 2.00
The knowledge and skills required to perform basic plumbing installations and repairs are covered.

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.

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.

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.

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.

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.

444-378
CNC Lathe Programming (5A) 3.00
Students will learn the role of CNC (Computer Numerical Control) machines in machining parts. Students will produce CNC handwritten programs from blueprints, download programs to machines, graphically prove out programs, perform manual machining functions, set up jobs, and produce parts on 2-axis turning centers utilizing a Fanuc control. Students will learn tools, speeds and feeds, facing, and turning operations.

444-379
CNC Lathe Operations (5B) 3.00
Students will produce CNC handwritten and conversational programs utilizing canned cycles to machine parts to blueprint specifications. Fanuc and Bridgeport controls will be covered. Manual and automatic machining functions will be performed on a Bridgeport Powerpath 2-axis turning center. Students will set up jobs and machine workpieces utilizing facing, turning, drilling, boring, grooving, and threading operations.

444-381
CNC Mill Programming (6A) 3.00
Students will learn the role of CNC (Computer Numerical Control) machines in machining parts. Students will convert blueprint dimensions into X, Y, and Z coordinates. They will produce and troubleshoot CNC handwritten programs from blueprints, perform manual machining functions, set up jobs, and produce parts on a 3-axis machining center utilizing G & M code programs. Also covered is tooling, speeds and feeds, face milling, drilling, slotting, tapping, and profile milling operations.

444-382
CNC Mill Operations (6B) 3.00
Students will produce and troubleshoot CNC handwritten and HAAS Visual Quick Code programs from blueprints, perform manual machining functions, set up jobs, and produce parts on a 3-axis machining center utilizing Haas and Fadal controls. Canned cycles will also be covered. Students will cover tooling, speeds and feeds, face milling, drilling, slotting, tapping, and profile milling operations.

444-383
Computer Aided Manufacturing CAM (7) 4.00
Students use Feature CAM programming software to produce G&M code programs and set-up instructions for turning and machining centers. Students also read prints, create geometry, process tooling, and graphically prove out programs. This will include solids (3D) and imported files to be programmed with set-up packets.

444-384
CNC Wire EDM (8A) 3.00
This course is an introduction to the operation and set up of an EDM wire machine. Projects consist of programming, set up, and operation to produce parts to blueprint specifications, including 2-axis and 4-axis applications.

444-385
Advanced CNC Applications (8B) 4.00
Students perform advanced operations and setups on CNC machining centers and machine and inspect workpieces to print dimensions and tolerances. Projects consist of canned cycles, 3D machining techniques, designing a fixture, and machining parts on a fixture. Multiple part fixtures will also be used for machining parts to blueprint specifications.

444-500
Numerical Control Fundamentals 1.00

444-501
CNC Lathe/Mill Advanced 1.50
Students will set up and operate CNC Lathe. Machine parts to specifications, machine parts to blueprints. Also will set up and operate a three axis vertical machining center.

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.

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.

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.

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.

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 fundamentalswill be included in this course.

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 feedbackdevices to make a complete operational material handling system.

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.

462-106A
Industrial Mechanic Capstone Project A
2.00
This course will set the foundation for a complex project that will be completed during part II of this course (462-106B). Parts and equipment needed will be identified and fabricated or machined. The concepts of team dynamics and project management will also be delivered throughout the course.

462-106B
Industrial Mechanic Capstone Project B 3.00
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.

462-107
Industrial Mechanics Machine Troubleshooting Introduction 2.00
This course expands on the information presented in the hydraulics/pneumatics introduction course, focusing on the troubleshooting and repair of hydraulic/pneumatic circuits with an emphasis on the integration with mechanical systems. Troubleshooting techniques are introduced and applied in determining the cause of actual system faults that will be placed in lab equipment.

462-108
Industrial Machine & Equipment Troubleshooting Introduction 3.00
This course focuses on the troubleshooting and repair of hydraulic/pneumatic circuits with an emphasis on the integration with mechanical systems. Troubleshooting techniques are introduced and applied in determining the cause of actual systems faults that will be placed in lab equipment by the instructor.

462-109
Pumps: Operation, Maintenance, and Troubleshooting 3.00
This course will use a combination of lecture and hands-on exercises to provide the student with information needed to repair and maintain the various types of pumps used in industry today. To help improve troubleshooting skills and to give students additional knowledge that can be used to improve pump reliability, the course will move beyond the pump itself and explore the entire pumping system as a whole. By applying the information contained in this course to manufacturing settings, students will be able to more effectively analyze pump failures, determine the appropriate repair action, select the correct repair action, select the correct repair parts, and be able to diagnose pump/system behavior, which will ultimately lead to more productive pump operation and lower maintenance costs.

462-110
Maintenance Machining Tech, Advanced 3.00
Advanced Maintenance Machining Technology gives students an opportunity to expand their maintenance machining skills and learn new techniques. A combination of lecture and practical lab exercises

will expose students to: taper turning and boring, sine plate application and use, advanced tooling selection and appplication, hard cutting, OD and ID grinding and CNC milling using conversational language programming.

462-343C
Industrial Machine Repair/Basic-Theory **2.00**

Students will learn to identify and work with various types of bearings, gears, and mechanical drives used on industrial machinery. Preventative maintenance procedures will be developedand performed on industrial machinery. Skills required to use hand tools and machine tools necessary for successful machine repair will be developed.

462-343D
Industrial Machine Repair/Basic-Applications **3.00**

Students will learn the correct basic disassembly and assembly procedures, cleaning, inspection, and fundamental machine repair techniques through the use of experimental equipment and actual machinery. Skills required for the safe operation of an industrial fork-lift, rigging, hitching, and moving of machinery and heavy parts will be developed.

462-345C
Industrial Machine Repair/ Advanced- Theory
2.00

During this course, students will learn the various tests for machine accuracy, coupling application and alignment, maintenance of variable speed drives, and lubrication materials and their application. Troubleshooting techniques will be advanced through discussion and practical application.

462-345D
Industrial Machine Repair/Advanced-Applications **3.00**

This is a project-oriented, 'hands-on' course in which the student will demonstrate machine tool operation skills, machine repair skills, and the ability to diagnose problems and make the necessary repairs.

462-346
Industrial Machine Repair/Basic **3.00**

Students will learn and apply knowledge about fundamental hand tools, blueprint reading, measurement devices, components, and machine moving. The student acquires and applies information about mechanical fasteners, drilling, reaming, and thread cutting using taps and dies.

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.

462-505
Principles of Gibs, Scraping, and Machine Accuracy **1.00**

Learning is accomplished using a combination of lecture and practical lab work. The basic principles of gibs, scraping, and machine accuracy will be explored.

462-506
Principles of Flexible Drives
1.00

Flexible drives are utilized throughout industry. These drives come in a variety of styles and each of these styles requires proper installation, maintenance, and repair. This class will introduce the student to these drive types. Labs will focus on building up actual drive systems and correctly calculating speed and torque to develop the required output from a drive system. Students will also learn the advantages and disadvantages of one drive system over another.

462-507
Principles of Fasteners and Threading **1.00**

Fasteners are a key component to your job in the maintenance area. You will need to know what type of fastener to select and how to install it properly. This course focuses on the broad array of fasteners with major emphasis on threaded types. Hands-on labs are utilized to give you experience in selection and installation.

462-508
Machine Alignment **0.50**

This course will instruct the learner in machine and equipment alignment used for production and moving of products using conveyors, pumps, motors, and power drive units.

462-510
Principles of Bearings, Clutches, and Gears **1.00**

Learning is accomplished using a combination of lecture and practical lab work. The basic principles of bearings, clutches, and gears will be explored.

462-515
Basics of Machine Leveling & Geometry **1.00**

Learning is accomplished by using a combination of lecture and practical lab work. The basic principles of machine leveling and geometry will be explored.

462-520
Troubleshooting Techniques **1.00**

Learning is accomplished by using a combination of lecture and practical lab work. The basic principles of industrial troubleshooting will be explored.

472-550
Diesel Engines - Industrial **1.00**

This course will cover the theory of diesel operations, discussing both mechanical and electronic injection systems. Maintenance and servicing procedures and basic troubleshooting will be covered.

472-551
Forklift Safety & Maintenance **1.00**

Forklift safety inspections will be covered. Students will discuss the procedure for removing a forklift from service for repair and post-repair inspections before a unit is returned to service.

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.

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.

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.

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.

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.

482-101
Wind Systems, Intro to **3.00**

This course prepares the learner to assess the global energy picture; analyze the causes of wind and wind flow properties; explore small, medium, and large wind turbine designs; assess the environmental effects of wind turbines; perform business and site assessments for a wind turbine project, plan your wind turbine project, evaluate operation and maintenance of the turbine system, and analyze the future of wind energy.

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 toheat/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.

483-178
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 occurance, 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.

501-101
Medical Terminology **3.00**

This course focuses on the component parts of medical terms: prefixes, suf-

fixes, 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.

501-104
Principles of Customer Service in Healthcare **2.00**

This course is designed as an introduction to customer service for learners interested in working in various healthcare settings. The learner investigates healthcare systems, safety standards, and the workforce. The learner examines professionalism, interpersonal and written communication skills, and confidentiality as they relate to customer service in healthcare.

501-107
Computing for Healthcare, Introduction **2.00**

This course provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. The course emphasizes the use of common software packages, operating systems, file management, word processing, spreadsheet, database, internet, and electronic mail.

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.

502-302
Perm Techniques **4.00**

Theory and practical training in basic and advance permanent waving procedures. Students apply knowledge and skills on customers in patron laboratory to complete competencies in subject area.

502-302A
Perm Techniques A **2.00**

Theory and practical training in basic and advanced permanent waving procedures.

502-302B
Perm Techniques B **2.00**

Students apply knowledge and skills of permanent waving on customers in patron laboratory to complete competencies.

502-303
Chemical Straightening **3.00**

Theory and practical training in chemical and related hair relaxing techniques and procedures. Students apply knowledge and skills on customers in patron laboratory to complete competencies in subject area.

502-303A
Chemical Straightening A **2.00**

Theory and practical training in chemical and related hair relaxing techniques and procedures.

502-303B
Chemical Straightening B **1.00**

Students apply knowledge and skills of Chemical Relaxing in the patron laboratory to complete competencies.

502-304
Basic Hair Color **4.00**

Theory and practical training in hair coloring techniques, procedures and formulations. Students apply knowledge and skills on customers in patron laboratory

502-304A
Hair Color A, Basic **2.00**

Theory and practical training in haircoloring techniques, procedures, and formulations.

502-304B
Hair Color B, Basic **2.00**

Students apply knowledge and skills of haircolor on customers in patron lab.

502-305
Basic Manicuring **3.00**

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.

502-305A
Manicuring A, Basic **2.00**

Theory and practice training in basic and advanced manicuring, pedicuring, and nail art procedures and techniques.

502-305B
Basic Manicuring B **1.00**

Students apply knowledge and skills of basic manicuring and nail art on clients in a simulated salon environment.

502-306
Hair Design I **3.00**

Theory and practical training in the following: artistic design, setting and finishing techniques. Use of a variety of tools such as blow dryer, curling iron, and rollers. Techniques such as molding, pincurling,fingerwaving, and backbrushing. Student apply knowledge and skills on customers in patron laboratory to complete competencies in subject matter.

502-306A
Hair Design IA **2.00**

Theory and practice training in artistic design, setting, and finishing techniques. Use of blow dryer, curling iron, and rollers.

502-306B
Hair Design IB **1.00**

Students apply knowledge and skills of hairstyling on customers in the patron lab to complete competencies.

502-307
Hair Design II **3.00**

Theory and practical training in wigs and hair pieces, hair pressing and long hair designs. Students apply knowledge and skills on customers in the patron laboratory to complete competencies in subject matter.

502-307A
Hair Design II A **2.00**

Theory and practical training in wigs and hair pieces, hair pressing, and long hair designs.

502-307B
Hair Design II B **1.00**

Students apply knowledge and skills of hairstyling on customers in the patron lab to complete competencies.

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.

502-318
Facials **3.00**

Theory and practical training in facial massage, skin care, basic and corrective make-up application. Eyebrow arching, waxing, lash and brow tinting, false eyelash application. Seasonal color analysis. Students applyknowledge and skills on customers in patron laboratory to complete competencies.

502-318A
Facials A **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.

502-318B
Facials B **1.00**

Students apply knowledge and skills of facials in patron laboratory to complete competencies.

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.

502-327
Manicure Nail Additional Hours **2.00**

For students who meet manicuring/nail technician training in other states wishing to complete 300 hours for Wisconsin licensure. Students are evaluated per Wisconsin requirements. They completet-raining on patron lab floor and complete a mock state board exam.

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 Wisconsinrequirements, complete training on patron lab floor and complete a mock state board.

502-331
Women's Haircutting **4.00**

Theory and practical training in haircutting concepts, and basic form techniques. Use of tools such as scissors, razor and thinning shears. Students apply knowledge and skills on customers in the patron laboratory to complete competencies.

502-331A
Women's Haircutting A **2.0$_0$**

Theory and practice training in hair cutting concepts and basic form techniques. Use of tools such as scissors, razors, and thinning shears.

502-331B
Women's Haircutting B **2.00**

Students apply knowledge and skills of haircutting on customers in the patron laboratory to complete competencies.

502-332
Men's Haircutting **4.00**

Theory and practical training in haircutting concept, basic form techniques and mustache and beard trims. Use of clippers, scissors, razor and thinning shears. Students apply knowledge and skills on customers in the patron laboratory to complete competencies.

502-332A
Men's Haircutting A **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.

502-332B
Men's Haircutting B **2.00**

Students apply knowledge and skills of men's haircutting on customers in the patron laboratory to complete competencies.

502-336
Bleaching **3.00**

Theory and practical training in bleaching techniques, procedures and the seven stages of lightening hair. Students apply knowledge and skills on customers in patron laboratory

502-336A
Bleaching A **2.00**

Theory and practical training in bleaching techniques, procedures, and stages of lightening hair.

502-336B
Bleaching B **1.00**

Students apply knowledge and skills of bleaching on customers in patron laboratory.

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.

502-344
Salon Services/Advanced **3.00**

Students apply knowledge and skills on customers in a simulated salon environment to demonstrate competencies in all

subject areas to prepare for Wisconsin State Board exam.

502-344A
Salon Services/Advanced A
1.00

Students apply knowledge and skills on customers in a simulated salon environment to demonstrate competencies in all subject areas to prepare for Wisconsin State Board exam.

502-344B
Salon Services/Advanced B
2.00

Students apply knowledge and skills on customers in a simulated salon environment to demonstrate competencies in all subject areas to prepare for Wisconsin State Board exam.

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 reinforceinteraction.

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.

502-514
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.

502-540
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.

502-551
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.

503-105
Chemistry of Hazardous Materials **3.00**

The identification of materials classified

or potentially dangerous under abnormal conditions. Dealing with expected events, preplanning to minimize risks and initial actions to be taken under normal and abnormal conditions.

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.

503-107
Engine Operations **3.00**

Students complete classroom and practical exercises with fire pump equipped fire apparatus with a focus on driving and operating fire pump equipped vehicles.

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 andpracticed by the class as part of assignments and exercises.

503-115
Hazards and Causes of Fire
3.00

Outlines the causes, hazards and risks of fire from the physical, chemical, electrical, mechanical, social and psychological point of view. These elements are listed along with good management practice to access and limit or minimize the impact of fire incidence. Develops a positive plan of action to control, minimize or eliminate these elements in a given environment.

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.

503-122
Fire Prevention and Inspection **3.00**

Examines the need for fire prevention, the organization and function of fire prevention, both private and public. Inspection psychology, hazard recognition, recommendations and practical solutions for correction of fire hazards as well as reports and records are covered. The course outlines the process of code and standard development and adaption. Emphasis is placed on the methodology of locating and applying codes and standards to typical everyday circumstances. Upon completion, students are encouraged to take the certification exam for Fire Inspector I, State of Wisconsin.

503-123
Fire Ground Tactics and Strategies **3.00**

The study of fire ground operations during emergency situations. Included are incident command procedures, communications, specialized logistics and relevant record/report-writing.

503-124
Fire Detection and Suppression Systems **3.00**

A survey of systems used in detecting, notifying, alarming and suppressing fires, pointing out advantages and weaknesses of various systems.

503-125
Fire Protection and System Hydraulics **3.00**

A basic knowledge of hydraulics both in theory and practice. The student will learn to calculate and compute waterflow problems for municipal, industrial and fire service situations.

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.

503-135
Fire and Arson Investigation **3.00**

Introduction to the problems and techniques of fire investigation. Emphasis on application and understanding of fire behavior and chemistry of fire in determining the origin and causes of fire.

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 correctionof 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.

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 certificationwith the state of Wisconsin.

503-156
Strategies, Tactics & 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.

503-157
Fire Investigation **3.00**

This course provides learners with the fundamentals and technical knowledge needed for proper fire scene investigations.

504-114
Criminal Investigation Theory **3.00**

Designed to demonstrate the basic principles of criminal investigation. The course will explore proper procedures utilized in the processing of crime scenes and the securing, recording, searchingand recovery of evidence as utilized to further the investigative process.

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.

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.

504-121
Criminal Justice System/ Introduction to **3.00**

This course will show the various elements of the criminal justice system and how they relate, the role that law enforcement plays and the importance of professionalism in law enforcement.

504-122
Traffic Theory **3.00**

In this course, students study the rules of the road, what constitutes a traffic violation, how punishment is governed by law, the Wisconsin Motor Vehicle Code, fundamental traffic law enforcement tactics, and fundamental accident reconstruction techniques.

504-123
Juvenile Law **3.00**

This course highlights psychological considerations of the juvenile development process, societal and family influences, patterns of normalcy versus delinquency, legal considerations, juvenile courts, detention, and police guidelines.

504-138 Community Policing/Patrol Procedures **3.00**

Students will explore evolving police strategies, activities, and attitudes that build effective law enforcement and community relationships and the use of problem-oriented policing.

504-139
Professional Communications **3.00**

Students will learn the role of communication in law enforcement and will develop and apply specific communication skills and the strategies in a variety of simulated situations.

504-140
Law Enforcement Report Writing **3.00**

This course provides the student with the opportunity to write a wide variety of law enforcement reports to accurately and fairly convey necessary information for use by investigators, prosecutors, and the public.

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.

504-144
Constitutional Law **3.00**

This course covers the structure of the criminal justice system, including criminal procedures. 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.

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.

504-149
Criminal Law **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.

504-173
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 focusingon 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, Identitifcation 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.

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 alsolearn 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.

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.

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.

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.

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.

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.

508-356
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.

508-357
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.

508-358
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.

508-359
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.

508-360
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.

508-361
Dental Assistant Clinical - Advanced **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.

509-302
Human Body in Health & 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.

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 procedurescommonly 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.

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.

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 minorsurgery, performing an electrocardiogram, assisting with respiratory testing, educating patients/community, and maintaining clinical equipment in an ambulatory care setting.

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.

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.

509-309
Medical Law, Ethics, & 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.

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.

509-314
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.

509-320
Medical Assistant Alternate Externship **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.

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.

510-102
Emergency Room Nursing Lab **2.00**
This two credit course focuses on advanced nursing skills used in emergency room care. Demonstration of these advanced skills and equipment will be provided. Scenario based simulations will be performed and return demonstrations for skill attainment will be completed. This lab course will include such skills as EMS equipment, chest tubes, arterial lines, surgical instrumentation, ventilators, orthopedic appliances, Zoll pacers, IV drips, and other assessment skills.

510-103
Emergency Room Nursing Clinical **2.00**
This two credit (108 hour) course provides clinical experiences in an emergency room. A preceptor will be provided for this experience. Experience hours will be mutually determined by the student and the preceptor. A clinical journal and skill documentation will be completed. This preceptor component will provide a 1:1 student/ perceptor ratio for learning in this course.

510-104
Nursing Curriculum Transition **5.00**
This course meets the needs of students in the 'old' curriculum as they transition from the second semester to the third semester of the state aligned curriculum. The course addresses competencies from health promotion, health alterations, and the community content from third semester. Students who have completed second semester take this course to prepare for entry into the state curriculum.

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 is designed to update the RN on theoretical components of nursing practice and to meet Wisconsin State Board of Nursing requirements as an RN ready to enter the work force. Topics included in the course are: ethics, legal issues, trends, professional issues, the nursing process, documentation, physical and nutritional assessment, medication and intravenous fluid therapy, leadership, and communication skills.

510-108
RN Refresher II - Clinical **2.00**
This clinical experience builds upon the theory and practicum reviewed in RN Refresher I - Theory/Lab. This experience is determined by the student's preference and site availability and may be performed in a hospital, clinic, or long term/ sub-acute facility. The course consists of 100 or more hours of directly supervised or precepted clinical experience. As the experience progresses, so does the independence of the student.

510-126
OB Technician **4.00**
This course is designed for CNAs working in the obstetrical department, to prepare them to help with all types of deliveries, postpartum tubals, emergency procedures, and circumcisions performed in the OB department.

510-149
Nursing Across the Lifespan III **3.00**
Students will be able to demonstrate critical thinking abilities through collaboration with the health care team. Opportunities exist for students to grow in confidence with judgement, problem solving and skill performance. Nursing practice will take place in acute as well as community settings. Building on previous learning, complex client needs will be addressed including renal, metabolic, immune, sensory and integumentary alterations.

510-150
Nursing Trends & Leadership **3.00**
Basic concepts and theories of nursing leadership and current trends are presented. Legal aspects, personal responsibilities, and trends in health care are discussed. Opportunities are

provided toapply leadership skills through a student- preceptor clinical experience selected from a variety of acute, chronic, or community settings.

510-151
Nsg: Endocrine & 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.

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 focusingon issues of communication, intervention, development and current thematic issues in the care of children.

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 andthe nursing process to the medical/nursing treatment of a variety of clients.

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 aclimate where the learner is expected to synthesize and apply previous learned concepts to physiologic adaptations because of a defined pathology.

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 diagnosticorders, interdisciplinary treatment orders, and specialty unit orders.

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.

510-323
Nursing/Basic I **3.00**
Introduction to nursing concepts. Content includes nursing process as it relates to clients' needs such as safety, asepsis and comfort. Theory is reinforced with concurrent simulated practice in lab and clinical health care settings.

510-324
Nursing/Basic II **3.00**
Introduction to nursing concepts continues. Nursing process is further developed as it relates to meeting clients' needs such as fluids, electrolytes and oxygenation. Concepts of medication administration areexplored. Theory is reinforced with concurrent simulated practice in lab and clinical health care settings.

510-325
Medication Assistant for Nursing Assistant **3.00**
A 108 hour course: 54 hours of class and 54 hours of lab. Designed for the nursing assistant able to meet occupational prerequisites. On completion, nursing assistants will be involved with the administration and distribution of medication in a skilled long term care facility.

510-331
Mental Health Nursing/Basic **2.00**
Designed to include therapeutic, personalized, comprehensive, preventive, and rehabilitative principles in caring for the mentally ill. Effort is aimed at helping the student relate to all people effectively to relieve suffering, increase security, and promote emotional health in the care of patients. A clinical component is included.

510-332
Mother and Infant Care **2.00**
An introduction to the family as a social unit. It is designed to present pregnancy as a normal process. Concepts in care of the neonate and the mother aimed at attaining optimum health, comfort, and safety in various situations are stressed. Clinical observation is provided.

510-335
Nursing Through the Lifespan I **5.00**
Using the nursing process, students will apply knowledge and skills with clients in various health care settings. Concepts are presented related to nursing care of clients of all ages. Topics include health promotion and perioperative care. Care of clients with alterations in the respiratory, cardiovascular, endocrine, gastrointestinal and genitourinary systems is included.

510-335A
Nursing/Lifespan I-Lecture **2.00**
Concepts are presented related to nursing care of clients of all ages. Topics include health promotion and perioperative care. Care of clients with alterations in the respiratory, cardiovascular, endocrine, gastrointestinal and genitourinary systems is included.

510-335B
Nursing Through the Lifespan I Lab and Clinical **3.00**
Using the nursing process, students will apply knowledge and skills with clients in various health care settings. Topics include health promotion and perioperative care. Care of clients with alterations in the respiratory, endocrine, cardiovascular, gastrointestinal and genitourinary systems is included.

510-336
Nursing Through the Lifespan II 5.00
Using the nursing process, students will apply knowledge and skills with clients in various health care settings. Concepts are presented related to nursing care of clients of all ages. Topics include the role of the practical nurse in leadership and child/family health care. Also included is care of clients with alterations in the immune, musculoskeletal, neurological, sensory and integumentary systems. Care of clients with communicable disease and cancer is included.

510-336A
Nursing/Lifespan II - Lecture 2.00
Concepts are presented related to nursing care of clients of all ages. Topics include the role of the practical nurse in leadership and child/family health care. Also included is care of clients with alterations in the immune, musculoskeletal, neurological, sensory and integumentary systems. Care of clients with communicable disease and cancer is included.

510-336B
Nursing Through the Lifespan II Lab and Clinical 3.00
Using the nursing process, students will apply knowledge and skills with clients in various health care settings. Concepts are presented related to nursing care of clients of all ages. Topics include the role of the practical nurse in leadership and child/family health care. Also included is care of clients with alterations in the immune, musculoskeletal, neurological, sensory and integumentary systems. Care of clients with communicable disease and cancer is included.

510-342
Nursing Assistant/Supportive 5.00
Prepares students to perform Basic Nursing Assistant skills under the supervision of a Licensed nurse caring for patients in various health care settings. This course provides tutorial/classroom/laboratory experience and clinical experience in a nursing home. A certificate is awarded and graduates are placed on the Wisconsin NA/HHA Registry.

510-347
ESL Nursing Assistant 5.00
Prepares students to perform Basic Nursing Assistant skills under the supervision of a Licensed nurse caring for patients in various health care settings. This course provides tutorial/classroom/laboratory experience and clinical experience in a nursing home. A certificate is awarded and graduates are placed on the Wisconsin NA/HHA Registry.

510-348
Current Trends in Health Careers 3.00
This course introduces students to a variety of health occupations that are in demand in today's health market. The course will include theory, presentations, guest speakers, labs, and occupational experience in a health care facility. This is an exploratory course focusing on careers in health care which will expand student knowledge of career choices.

510-352
Nursing Issues I 1.00
Places importance on historical development, legal aspects, and personal responsibilities and commitment of the nurse to nursing patients, colleagues, community and self.

510-353
Nursing Issues II 1.00
Places importance on developing qualities of effective leadership. Covers issues of job seeking skills and successful employment. Current trends in health care are addressed.

510-354
Foundations of Health Promotion 1.00
Addresses mental, emotional and physical changes of individuals throughout the lifespan. Health risks promotion and health needs are covered. Theories of growth and development are introduced.

512-100
Surgical Technology/Introduction 3.00
Surgical Technology/Introduction covers information about the different health care facilities, agencies, and the organizational structure that describes the functions of each. Additionally, the beginning course discusses the duties of the different team members including communication techniques, documentation of patient care, medical/legal responsibilities, and safe patient care. Also discussed are the needs and rights of the surgical patient.

512-101
Surgical Applications I 4.00
Surgical Applications I is a beginning laboratory course that covers basic principles which apply to aseptic technique, sterilization and disinfection, instrumentation, sutures, needles, and preparing surgical supplies. Students tour a clinical facility as part of the course orientation.

512-102
Surgical Technology II 3.00
Surgical Technology builds upon competencies and skills learned in Surgical Technology/Introduction and Surgical Applications I. Specific competencies introduce the student to circulating duties such asassisting the patient, response to surgical procedures, and the needs demonstrated from that response. Other areas of content include: preoperative routines, thermoregulatory devices, anesthesia types and delivery systems, taking and recording of vital signs, methods of hemostasis, transporting and positioning patients, and safe handling of specimens.

512-103
Surgical Applications II 4.00
Surgical Applications II is a laboratory and clinical experience course that builds upon information learned in semester I courses. This course will include the beginning scrub duties of the surgical technologist: creating a sterile field, caring for and using surgical instruments, selecting and handling sutures, selecting and handling varieties of needles, preparing and using standard equipment, preparing and using special equipment, and draping the surgical patient and the sterile field.

512-108
Surgical Pharmacology 1.00
Surgical Pharmacology is a basic study of drug classifications, care and handling of drugs and solutions, application of arithmetic principles in dosage calculations, terminology related to pharmacology, anesthesia, and drugs used in surgery.

512-110
Update in Surgical Technology 2.00
Update in Surgical Technology builds upon previously learned skills. Clinically, the surgical technologist requesting this update will be assigned to a clinical facility with an instructor to oversee experiences,

evaluate progress, and help build the self confidence needed to re-enter the profession of surgical technology. The student will work during scheduled times as assigned and will complete all required assignments, including a care study, during this clinical. Additionally, the student will assist with the experience by requesting those procedures most needed to complete his/her case experiences.

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.

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.

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.

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.

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.

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.

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.

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 clinicalpersonnel.

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.

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.

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.

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.

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.

513-111
Phlebotomy **2.00**
This course provides opportunities for learners to perform routine venipuncture, routine capillary puncture, and special collection procedures.

513-166
Phlebotomy Clinical Experience **2.00**
This clinical course provides 120 hours of practical application of principles and techniques of phlebotomy. The student observes and performs routine phlebotomy and processing tasks in affiliating phlebotomy facilities.

519-301
Custodial Services Math **1.00**
Emphasis is on addition, subtraction, multiplication and division of whole numbers and addition and subtraction of fractions; linear and area measurement, volume; and gauge and graph interpretation.

519-320
Custodial Services Related **2.00**
Focus is on preparing students for the custodial services lab experience. Students are introduced to terminology, supplies, materials and equipment used in the field and techniques of floor, carpet,wall and window care.

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 degreehuman service worker.

520-105
Interviewing Principles & Recordkeeping **3.00**
Introduction to interviewing and recordkeeping skills as practiced in human services agencies, including social history, summary recording, case assessment and planning.

520-110
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.

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. Consent includes development of case project using materials drawn from agency setting. This course will meet in a weekly seminar to monitor progress and address concerns.

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. Consent of advisor. The class will meet in a weekly seminar to monitor progress and address concerns.

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.

520-140Group 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.

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 studentwill 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.

522-101
IA: 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
IA: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 groupsthrough questioning, listening, and guiding techniques. This course also addresses the use of current classroom materials plus enrichment and support activities.

522-103
IA: 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, questioningtechniques, and basic assessment practices.

522-104
IA: Technology and Media Resources 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 inthis 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.

522-105
IA: Practicum 1 2.00
Field Experience I will introduce the student to the pre-kindergarten, kindergarten, elementary, middle, or high school classroom. The student will observe children and practice techniques under the direction of the classroom teacher.

522-106
IA: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
IA: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
IA: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.

522-113
Media and Computer Resources **2.00**

This course provides training in the operation of VCRs, Elmos, video equipment, overhead projectors, tape recorders, and computers as it relates to the instructional assistant. It also includes hands on experience with instructional resources such as learning centers, software, and other instructional aids that enhance student learning.

522-115
IA:Practicum 2 **2.00**

The second field experience will provide the student with further responsibilities in a classroom setting in pre-kindergarten, elementary, middle, or high school. The student will work with children or youth under the direction of the classroom teacher.

522-118
IA: 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.

522-120
IA: 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
IA: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.

522-123
IA: Positive Classrm Mgmt Tech Techniques **2.00**

This course examines the impact of issues such as divorce, alcoholism, child abuse, youth suicide, stress, violence, and gangs on behavior in the classroom. It also examines conflict resolution techniques with an emphasis on de-escalation strategies and prevention.

522-124
IA: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.

522-125
IA:Practicum 3 **2.00**

Practicum 3 allows students to put into practice the knowledge and skills learned from program courses under the direction and supervision of a certified teacher or other qualified school personnel. Job search skills will also be addressed.

522-126
Technology for Instructional Assistants **3.00**

Students prepare a variety of school related documents such as worksheets, tests, letters, posters, brochures, and presentations, while learning selected software. Students incorporate images into these documents from a variety of sources, including digital cameras and scanners.

522-129
IA: 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 aDPI certified teacher.

522-131
IA: 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.

522-132
IA: 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.

524-101
PTA Clinical III **5.00**

Students are placed in supervised, full-time clinical settings that focus on the application of all previous classroom and clinical experience. A variety of clinical settings will be offered, to provide students greater exposure to the Physical Therapy treatment arena, including specialty areas, as available.

524-102
Life Course Applications **3.00**

Typical and atypical development over the life course is examined. Common pathological condition childhood and adulthood, along with their physical therapy interventions, are discussed. Topics relatedto the aging process and functional independence are covered. Important functional abilities at the various stages in the lifespan are discussed. The causes and consequences of dysfunction and related impairments with these activities are explored. Students demonstrate effective application of previously learned general concepts to specialty populations. Prior clinical experiences with patients is integrated into discussions and labs.

524-103
Physical Disabilities Management **2.00**

Elements of discharge planning and home assessment are covered. Various barriers to patients returning to the community are discussed. Function of the PTA as a facilitator in maximizing health, mobility and independence in traditional and non-traditional settings is presented. The role of the PTA in preventative health care is addressed.

524-104
Rehabilitation Organizations **1.00**

Legal and ethical conduct of the Physical Therapist Assistant is explored. Emerging issues and trends in health care in general and rehabilitation in particular are discussed. The link between health care financing and meeting documentation requirements is reviewed and documentation skills are further refined. Students review professional literature for scientific and clinical merit. Students develop skills and materials for job seeking, including resume writing and preparation for taking the PTA licensing examination.

524-105
Physical Therapy International Field Experience **2.00**

This course provides learners with an immersion experience in the culture and health care system in a developing country. Students study culture, health systems, and basics of the local language prior to traveling. The course culminates in a two week clinical experience, providing physical therapy services to a variety of patients in the host country.

524-106
Pediatrics for Physical Therapy Assistants **1.00**

The course begins a brief overview of the principles of normal development, followed by extensive coverage of atypical development. Assessment and treatment of cerebral palsy, spina bifida, developmental delay, coordination and balance deficits, juvenile arthritis, and other selected pathologies are discussed and demonstrated.

524-107
PTA/Proprioceptive Neuromuscular/ Advanced Facilitation Concepts for the Physical Therapist Assistant/ Advanced **1.00**

Advanced Proprioceptive Neuromuscular Facilitation for the PTA will enhance the student's knowledge of activities, patterns, and techniques initially addressed in previous coursework. The treatment of neurologic and orthopedic dysfunction and functional outcomes will be addressed. The course will consist of simulated patient practice in lab/lecture setting.

524-108
PTA Musculoskeletal Anatomy & 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.

524-111
Physical Therapy Assistant/ Introduction **2.00**

The role of physical therapy in various health care settings is presented. Students are acquainted with medical terminology, abbreviations and principles of documentation. Health care delivery models, team members, legal and ethical issues, history of physical therapy and its professional organization are explored. Basic patient care skills including vital signs, positioning, transfers, transporting patients, aseptic techniques, and slings are covered.

524-120
PTA Clinical I **2.00**

Clinical PTA is designed to introduce PTA students to the clinical setting. Students will begin to apply knowledge and skills learned in previous courses and incorporate knowledge they are obtaining in co-requisite courses. Students will have direct patient contact in a variety of clinical settings. An introduction to clinical documentation and oral reports will be required to demonstrate the process of obtaining and assessing patient information. PTA will work on interaction and treatment of patients in a clinical and laboratory setting.

524-127
Kinesiology **4.00**

Kinesiology is the study of human motion. It combines the sciences of biology, chemistry, and anatomy with the laws of physics and biomechanics to describe how human motion is created. An in-depth overview of theosteology, arthrology, and myology of each joint will be discussed. Major emphasis is devoted to muscle and joint function. Laboratory activities focus on palpation skills, goniometry, and manual muscle testing.

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.

524-141
Physical Therapy International Field Experience **2.00**

This course provides learners with an immersion experience in the culture and health care system in a developing country. Students study culture, health systems, and basics of the local language prior to traveling. The course culminates in a two week clinical experience, providing physical therapy services to a variety of patients in the host country.

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.

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.

524-145
PTA Musculoskeletal Rehabilitation4.00

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.

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.

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.

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.

524-148
Pediatrics for Physical Therapy Assistants 1.00

The course begins a brief overview of the principles of normal development, followed by extensive coverage of atypical development. Assessment and treatment of cerebral palsy, spina bifida, developmental delay, coordination and balance deficits, juvenile arthritis, and other selected pathologies are discussed and demonstrated.

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.

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.

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.

526-149
Radiographic Procedures 1 5.00

This course prepares radiography students to perform routine radiologic procedures on various parts of the body, including the upper body, hip, pelvis, and ankle. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result.

526-158
Introduction to Radiography 3.00

This course introduces students to the role of radiography in health care. Students apply legal and ethical considerations to patient care and pharmacology in the radiologic sciences.

526-159
Radiographic Imaging 1 3.00

This course introduces radiography students to the process of creating radiographic images. Students determine the factors that affect image quality, including contrast, density, and distortion. Students apply OSHA standards for health and safety in the darkroom.

526-168
Radiography Clinical 1 2.00

This beginning level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standardprecautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

526-170
Radiographic Imaging 2 3.00

This course prepares radiography students to apply advanced radiographic principles to the production of radiographic images. Students analyze exposure factor considerations, differentiate between film and exposure latitude, and use beam restricting devices.

526-174
ARRT Certification Seminar 2.00

Provides preparation for the for the national certification examination prepared by the American Registry of Radiologic Technologists. Emphasis is placed on the weak areas of the individual students.Simulated registry examinations are utilized.

526-189
Radiographic Pathology 1.00

This course prepares radiography students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications, and prognosis and locatethe radiographic appearance of pathologies.

526-190
Radiography Clinical 5 2.00

This fifth level clinical course prepares radiography students to perform radiologic procedures on patients with some supervision. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical

guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

526-191
Radiographic Procedures 2 **5.00**
This course prepares radiography students to perform routine radiologic procedures on various parts of the body, including the skull and spine. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result.

526-192
Radiography Clinical 2 **3.00**
This second level clinical prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

526-193
Radiography Clinical 3 **3.00**
This third level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting.

526-194
Imaging Equipment Operation **3.00**
This course introduces radiography to the principles and application of x-ray technology. Students analyze how x-rays are produced and determine the corrective actions necessary for common equipment-malfunctions.

526-195
Radiographic Quality Analysis **2.00**
This course prepares radiography students to analyze radiographic images for quality. Students apply quality control tests to determine the causes of image problems, including equipment malfunctions and procedural errors.

526-196
Modalities **3.00**
This course introduces radiography students to other types of imaging, including ultrasound, MRI, mammography, and bone density scans. Students analyze the role of various imaging technologies in health care.

526-197
Radiation Protection and Biology **3.00**
This course prepares radiography students to protect themselves and others from exposure to radioactivity. Students examine the characteristics of radiation and how radiation affects cell biology. Students apply standards and guidelines for radiation exposure.

526-198
Radiography Clinical 6 **2.00**
This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high quality radiographs in the clinical setting. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

526-199
Radiography Clinical 4 **3.00**
This fourth level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

527-100
Wastewater Treatment/Introduction **3.00**
This introductory course covers subjects common to all wastewater treatment processes. The information in this course provides students with an understanding of how the aquatic environment isaffected by untreated wastewater, how treatment plants function to prevent water pollution, and what an operator's role is in operating a wastewater treatment plant.

527-107
Basic Activated Sludge **1.00**
Properly operated, the activated sludge process can treat more sewage in less space than other processes and can meet strict final effluent BOD and TSS limits on a consistent basis. This course covers the basic skills necessary to properly operate an activated sludge plant. The skills include an understanding of process design, functions, and the controls required to make the process changes necessary to achieve high BOD removal rates. Calculations to determine sludge wasting rates, sludge volume rates, sludge volume index, and food to microorganism ratio are used to show the parameters operational changes are based on. Also, the importance of maintaining adequate dissolved oxygen levels, wasting rates, and food to microorganism ratios are discussed. Emphasis will be on understanding the activated sludge theory so operational changes and troubleshooting can be accomplished in an effective and efficient manner.

527-109
Disinfection of Wastewater **1.00**
This course covers two of the most common methods for disinfecting wastewater: chlorine and ultraviolet radiation. Included in the discussion of chlorine usage is the chemistry of chlorination, calculation to determine dosage, equipment, dechlorination, and safety. The discussion on ultraviolet radiation covers system design, the theory of how ultraviolet radiation disinfects, and the factors that affect the efficiency of the process. This course helps operators prepare for the Introductory and Advanced Disinfection Wastewater Certification Exam.

527-116
Phosphorus Removal **1.00**
More and more treatment plants are required to remove phosphorus in addition to conventional pollutants. This course covers chemical phosphorus removal, including equipment, chemicals used, laboratory analysis, and dosage calculations. Biological phosphorus removal is also covered. The negative effect that excessive phosphorus has on the environment and operator safety considerations are also covered.

527-126
Industrial Waste, Metal Finishing 1.00
This course will cover skills necessary for the operation of a metal finishing plants wastewater treatment system. Topics covered include laws and regulations, compliance strategies, treatment processes (hexavalent chrome reduction, cyanide destruction, precipitation, and sedimentation of heavy processes), sludge handling, sampling and analysis, calculations, and safety.

527-132
Surface Water Certification 1.00
Surface Water is a three day course designed for new to intermediate water supply personnel. This course provides background information, operation, and maintenance tips, while preparing operators for the State of Wisconsin Class S (surface water) examination.

530-172
Healthcare Delivery Systems 2.00
This course examines the organization, financing, and delivery of health care services, including the study of healthcare professionals.

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.

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.

530-178
Healthcare Legal and Ethical Issues 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.

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 Diseases for the 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.

530-183
ICD-9-CM Coding 3.00
This course explains the basic principles of coding diseases and operations, emphasizing this current classification system. Students are also introduced to miscellaneous coding systems that preceded the current system. A demonstration of encoder and impact of sequencing is included.

530-184
CPT-4 Coding 3.00
This course teaches coding of physicians' procedures and services using the HCPCS/CPT system, including basic coding principles and guidelines and coding from operative reports and other medical record documentation.

530-185
Reimbursement in Healthcare 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) withentry-level proficiency, using computerized encoding and grouping software.

530-190
Healthcare Information Systems 3.00
This course 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 information systems design and implementation.

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.

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.

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.

530-196
Professional Practice Experience I 3.00
The first of a two-semester sequence of supervised clinical experiences in health care facilities, this course provides application of previously acquired skills and knowledge with clinical experiences in the technical procedures of health record systems and discussion of clinical situations.

530-198
Professional Practice Experience II 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.

531-103
EMT Intermediate/Paramedic Theory I **2.00**
This first semester course will provide the lecture component and theory transitioning the certified EMT Intermediate to the EMT Paramedic level, with a focus on pharmacology and respiratorymanagement.

531-104
EMT Intermediate/Paramedic Clinical I **3.00**
This 1st semester course will provide the lab and clinical components transitioning the certified EMT Intermediate to the EMT Paramedic level, with focus areas including fundamentals, pharmacology, shock, and respiratory and cardiac management.

531-105
EMT Intermediate/Paramedic Theory II Part A **5.00**
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 medical emergencies and trauma emergencies.

531-106
EMT Intermediate/Paramedic Theory II Part B **5.00**
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 emergency care for specialists.

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.

531-108
EMT Intermediate/Paramedic Clinical II **3.00**
This 2nd semester course will provide the lab and clinical components transitioning the certified EMT-Intermediate to the EMT-Paramedic level, with focus areas including hospital clinicalexperience and ALS field clinical experience.

531-111
Paramedic Fundamentals **4.00**
This four credit preparatory course includes: EMS systems, roles and responsibilities, well being of the paramedic, illness and injury prevention, medical/ legal aspects, ethics, general principles, pathophysiology, therapeutic communications, history taking, physical exam techniques, patient assessment, clinical decision making, verbal communication, and documentation.

531-112
Prehospital Pharmacology **2.00**
This course provides the opportunity for the student to develop the knowledge and understanding of basic pharmacodynamics, medication preparation, administration of medication, and selected medicationsused in the treatment of disorders of the major body systems.

531-113
Pathophysiology of Shock **1.00**
This course provides the student with the knowledge and skills to integrate pathophysiology principles and assessment findings to formulate a field impression and implement a treatment plan for a patient in shock.

531-114
Pharmacology - Applied **2.00**
This course provides the student with the knowledge and skills to safely and precisely access the venous circulation and administer medication. This course also provides the student with knowledge of fluid and electrolytes as it relates to management of patients in the pre-hospital setting.

531-115
Respiratory Management **2.00**
This course provides the student with the knowledge and skills to establish and/or maintain a patient airway and oxygenate and ventilate a patient.

531-116
Cardiology **3.00**
This course will provide the student with the basic knowledge and skills to integrate pathophysiological principles and assessment findings in order to formulate a field impression and implement the treatment for the patient with cardiovascular disease. This course includes Advanced Cardiac Life Support (ACLS) certification.

531-117
EMT-Paramedic Clinical I **4.00**
The student is required to complete 288 hours of documented practical skills application and observation at the beginning EMT-Paramedic level. The student will perform required skill competencies at a variety of clinical and field internship sites under the direct supervision of an approved preceptor.

531-118
Cardiology - Advanced **3.00**
This course will provide the student with the basic knowledge of 12 lead ECG interpretation. It provides the student with the knowledge and skills to integrate a field impression and implement a treatment plan for a patient with Acute Coronary Syndrome.

531-119
Medical Emergencies **3.00**
This course will provide the student with the knowledge and skills to integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for patients experiencing neurology, endocrine, allergic or anaphylactic emergency, gastroenterology, renal/ urology, toxicology, hematology, environmental emergency, infectious and communicable disease, and behavior and psychiatric disorders.

531-120
Trauma **3.00**
This course will provide the student with the knowledge and skills to integrate the principles of kinematics to enhance the patient assessment and predict the likelihood of injuries based on the patient's mechanism of injury. This course includes soft tissue trauma, burns, head and facial trauma, spinal trauma, abdominal trauma, thoracic trauma, and mechanism of injury trauma systems. This course includes PHTLS certification.

531-121
Emergency Care for Specialists 3.00
This course will provide the student with the knowledge and skills to formulate a field impression and implement a treatment management plan for the patient experiencing a gynecological, obstetrical, neonatal, pediatric, or geriatric emergency. This course also covers the victim of abuse or assault, patients with special challenges, acute interventions in the home care patient, and life span development.

531-122
EMS Operations 3.00
This course includes ambulance operations, medical incident command, rescue awareness, weapons of mass destruction, assessment based management, and NREMT-P prep.

531-123
EMT-Paramedic Clinical II 3.00
The student is required to complete 216 hours of documented practical skills application and observation at the beginning EMT-Paramedic level. The student will perform required skill competencies at avariety of clinical and field internship sites under the direct supervision of an approved preceptor.

531-151
Paramedic Fundamentals 5.00
This course provides the students with the basic knowledge of the EMS System, Roles and Responsibilities, Well-Being of the Paramedic, Illness and Injury Prevention, Medical-Legal Aspects, Ethics, General Principles, Pathophysiology, Therapeutic Communications, History Taking, Physical Exam Techniques, Patient Assessment, Clinical Decision Making, Verbal Communication, and Documentation. The student will gain and understanding of the basic principles of shock management.

531-152
Paramedic Pharmacology 4.00
This course provides the opportunity for the student to develop the knowledge of basic pharmacodynamics. The student will gain the knowledge and skills required to safely and precisely access the venouscirculation, and to select, prepare, and administer appropriate medications used in the treatment of disorders of the major body systems.

531-155
Respiratory Management 2.00
This course provides the student with the knowledge and skills to establish and/or maintain a patient airway and oxygenate and ventilate a patient.

531-156
Cardiology I 3.00
This course will provide the student with the basic knowledge and skills to integrate pathophysiological principles and assessment findings in order to formulate a field impression and implement the treatment for the patient with cardiovascular disease. This course includes Advanced Cardiac Life Support (ACLS) certification.

531-157
Clinical I 4.00
The student is required to complete 288 hours of documented practical skills application and observation at the beginning EMT-Paramedic level. The student will perform required skill competencies at a variety of clinical and field internship sites under the direct supervision of an approved preceptor.

531-158
Cardiology II 3.00
This course will provide the student with the basic knowledge of 12 lead ECG interpretation. It provides the student with the knowledge and skills to integrate a field impression and implement a treatment plan for a patient with Acute Coronary Syndrome.

531-159
Medical Emergencies 3.00
This course will provide the student with the knowledge and skills to integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for patients experiencing neurology, endocrine, allergic or anaphylactic emergency, gastroenterology, renal/ urology, toxicology, hematology, environmental emergency, infectious and communicable disease, and behavior and psychiatric disorders.

531-164
Trauma Emergencies 3.00
This course will provide the student with the knowledge and skills to integrate the principles of kinematics to enhance the patient assessment and predict the likelihood of injuries based on the patient's mechanism of injury. This course includes soft tissue trauma, burns, head and facial trauma, spinal trauma, abdominal trauma, thoracic trauma, and mechanism of injury trauma systems. This course includes PHTLS certification.

531-165
Emergency Care for Specialties 3.00
This course will provide the student with the knowledge and skills to formulate a field impression and implement a treatment management plan for the patient experiencing a gynecological, obstetrical, neonatal, pediatric, or geriatric emergency. This course also covers the victim of abuse or assault, patients with special challenges, acute interventions in the home care patient, and life span development.

531-166
EMS Operations 3.00
This course includes ambulance operations, medical incident command, rescue awareness, weapons of mass destruction, assessment based management, and NREMT-P prep.

531-167
Clinical II 3.00
The student is required to complete 216 hours of documented practical skills application and observation at the beginning EMT-Paramedic level. The student will perform required skill competencies at a variety of clinical and field internship sites under the direct supervision of an approved preceptor.

531-192
EMT-Basic 4.00
Emergency Medical Technician is a training course based on the DOT EMT Ambulance National Standard curriculum. It covers all emergency medical techniques currently considered to be within the responsibility of the EMT-A providing emergency care with an ambulance service. The course consists of 140 hours lecture and practical, plus 10 hours of hospital observation and training. Upon successful completion, the participant will qualify for certification and the NREMT Exam.

531-300
EMT-Basic **4.00**

Emergency Medical Technician is a training course based on the DOT EMT Ambulance National Standard curriculum. It covers all emergency medical techniques currently considered to be within the responsibility of the EMT-A providing emergency care with an ambulance service. The course consists of 140 hours lecture and practical, plus 10 hours of hospital observation and training. Upon successful completion, the participant will qualify for certification and the NREMT Exam.

531-302
Paramedic Principles I **5.00**

This course will include segments on pre-hospital, preparatory, and medical emergencies (Part 1).

531-303
Paramedic Principles II **3.00**

This course will include segments on medical emergencies (part 2), and trauma.

531-304
Paramedic Principles III **3.00**

This course will include segments on pediatrics, OB/GYN, and psychiatric crisis.

531-305
Paramedic Hospital Experience 4.00
This course will provide experience in the hospital or health care facility. It will include hours in the emergency department, critical care, laboratory, maternity, operating room, respiratory therapy, pediatrics, cardiac unit, renal dialysis, recover, and autopsy.

531-305A
Paramedic Hospital Experience A **1.00**

This course will provide experience in the hospital or health care facility. It will include hours in the emergency department, critical care, laboratory, maternity, operating room, respiratory therapy, pediatrics, cardiac unit, renal dialysis, recover, and autopsy.

531-305B
Paramedic Hospital Experience B **3.00**

This course will provide experience in the hospital or health care facility. It will include hours in the emergency department, critical care, laboratory, maternity, operating room, respiratory therapy, pediatrics, cardiac unit, renal dialysis, recover, and autopsy.

531-306
Paramedic Supervised Field Time **1.00**

Paramedic supervised field time will provide students with active participation in patient care and treatment. Students will perform advanced life support procedures under the direct supervision of qualified and pre-approved field preceptors.

531-307
Advanced Paramedic Skill Builder **4.00**

This course will review and enhance curriculum taught in previous paramedic classroom lectures, lab sessions, and clinical/field experience.

531-311
EMT-Intermediate Technician **2.00**

The IV Tech course will consist of 72 hours of training that will compliment the EMT-Basic curriculum. This course will allow the student to develop skills in the areas of IV therapy, drug administration, and advanced patient assessment.

531-322
EMT - Intermediate Clinical **2.00**

This course will cover the skills portion of the EMT-I program. Students will practice skills in advanced patient assessment, intubation, and medication administration.

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.

531-324
EMT - Intermediate Lecture **4.00**

This course will cover the didactic portion of the EMT-I program. Students will study components of advanced patient assessment, evaluation, treatment and protocols.

531-325
EMT - Intermediate Lab **3.00**

This course will cover the didactic portion of the EMT-I program. Students will study components of advanced patient assessment, evaluation, treatment and protocols.

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.

533-102
ASL 1 **4.00**

This course will focus on intensive vocabulary development and basic American Sign Language sentence structure. The students will begin to develop both expressive and receptive ASL skills.

533-103
Practicum I **3.00**

This course will give the student an opportunity to observe a variety of ASL users in educational and/or social settings.

533-104
ASL 2 **4.00**

This is a continuation in the development from phrases and simple sentences to complex structures. It will focus on the development of conversational American Sign Language skills.

533-105
Cultural Sensitivity in Interpreting **2.00**

This course will focus on the importance of understanding the cultural norms and values involved in any interpreting assignments. Students will learn how culture impacts the communication process and the importance of producing a culturally accurate interpreted message.

533-106
ASL Structure and Function **3.00**

This course is designed to expose the student to a comparison of the linguistic structure and function of American Sign Language. It will cover the study and use of phonemes and morphemes in ALS.

533-107
ASL 3/Introduction to Interpreting **4.00**

This course will move from conversational American Sign Language to beginning interpretation. Students will advance from complex structures to the appropriate use of ASL and English idioms.

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.

533-110
ASL 4/Interpreting **4.00**

This course will expand the student's ability to interpret from American Sign Language to English and from English to ASL. The full spectrum of simple sentences to complex ASL sentences and idioms will be developed.

533-111
Practicum II **3.00**

In this course the students will observe and participate in activities with Deaf children and/or adults.

533-112
Professional Development for Interpreter **2.00**

Emphasis is placed on the importance of following the Code of Ethics for Interpreters; the development of poise and communication techniques for personal and professional success; and the importance of personal appearance and attitudes.

533-113
ASL Skillbuilding 1 **1.00**

Students will practice ASL communication skills learned in ASL I with an emphasis on improving vocabulary and technique.

533-114
ASL Skillbuilding 2 **1.00**

Students will practice ASL communication skills learned in ASL II with an emphasis on improving vocabulary and technique.

533-115
ASL Skillbuilding 3 **1.00**

Students will practice ASL communication skills learned in ASL III/Introduction to Interpreting with an emphasis on improving vocabulary and technique.

533-116
ASL Skillbuilding 4 **1.00**

Students will practice ASL communication skills learned in ASL IV/Interpreting with an emphasis on improving vocabulary and technique.

533-117
ASL Skillbuilding 5 **1.00**

Students will practice ASL communication skills with an emphasis on expressive storytelling techniques.

533-118
ASL Skillbuilding 6 **1.00**

Students will practice ASL communication skills with an emphasis on receptive storytelling techniques.

533-119
Interpreting: Oral **3.00**

Students will develop paraphrasing and equivalent word substitution techniques to make a message visible on the lips. The course will also focus on simple gesturing and the importance of facial expression and mouth movements to enhance the clarity of the message. Students will practice techniques learned and how to apply a code of ethics to oral interpreting situations.

533-120
Interpreting: Sign to Voice **3.00**

Students will develop the skills necessary to voice signed messages. Students will learn techniques for team interpreting, interrupting speakers, and deciphering fingerspelling. They will develop and hone skills in understanding and matching signer intent of message, affect, and register.

533-121
Transliterating 1 **3.00**

This course will provide an introduction to the transliterating process, using the various manually coded English systems. Students will work on intensive vocabulary development in the expressive transliterating process using signed English.

533-122
Transliterating 2 **3.00**

This course will move from simple to complex structure in English translations. Students will further their transliterating skills to meet a variety of communication needs.

533-123
Transliterating: Sign to Voice **3.00**

Students will work on accurate translations of signed English to spoken English. They will learn to incorporate appropriate idioms into spoken messages.

533-124
Educational Practicum **3.00**

Students will participate in a 150 hour practicum in a PK-12 educational setting. They will observe working interpreters in a variety of content areas. Students will generally take on an active interpreting role.

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.

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 & 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 Fahrenheitand Celsius scales; convert military and standard time; and calculate individualized patient doses based on body surface area, age, and/or weight of the patient.

536-112
Pharmaceutical Business Applications **3.00**

The course prepares the learner to summarize pharmacy policies dealing with the Health Insurance Privacy and Portability Act (HIPPA), analyze criminal activities in the pharmacy, asses 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.

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.

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.

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.

543-001
Specialty Practice in Psychosocial Nursing **3.00**
This three credit theory course will have three modules. The first will evaluate complex psychiatric problems in the context of psychobiological mental health nursing. The second examines political and social issues in psychiatric care. The third will study psychiatric consultation-liaison work in Emergency Rooms. Learning activities will help the generalist nurse to become more proficient in dealing with psychosocial problems. This will include content on helping clients develop a Wellness Recovery Toolbox.

543-002
Mastering Psychiatry in Long Term Care **3.00**
This three credit theory course will have three modules. The first will examine the psychosocial aspects of chronic illness/disability among the elderly, including compassionate geropsychiatric care. In the second, students will learn about psychosocial care for incarcerated adults and how to foster their adaptation within the pain of imprisonment. The third module will focus on grief/loss and promoting the patient's adaptive coping. Homicide and suicide survivors, grieving mental illness, and loss from death will be discussed. Learning activities will enhance learners' professional use of self as they help patients cope with life changing grief. These activities will include cultural perspectives of death, grief, and bereavement.

543-003
Expert Care in Community Mental Health **3.00**
This three credit theory course will have three modules. The first module will provide opportunities to learn about principles related to normalization, self advocacy, and contextualization for community based mental health care. Studying transcultural mental health practices will be included in this module. The second module will address community screening programs, psychiatric home care, social network interventions, supportivehousing, outpatient services, crisis response services, and homelessness. The final modules will study the role of spirituality and/or religion in healing mental illness. Learning activities will call learners to review stories of service and carewhile learning practical nursing actions.

543-004
Clinical Practice in Psychosocial/ Mental Health **2.00**
In this two credit clinical course, the generalist GN/RN will develop increased competency in psychosocial nursing care. The nurse will partner with the instructor to locate an effective site(s) for enhancing psychosocial nursing skills. The selected clinical may be one or more locations covering any level in the continuum of care (i.e., hospital, ER, inpatient, or community based). Once identified, the student will be precepted by another staff employed by the agency. The instructor will serve as an internship coordinator for the involved parties (if there are a minimum of six students interested in taking the practicum together with the same start/end date, a psychiatric nursing facility can provide direct precepting).

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 thescope 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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

543-111A
Nursing Intermediate Clinical Practice A **2.00**
]his intermediate level clinical course develops the RN role when working with clients with complex medical surgical 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.

543-111B
Nursing Intermediate Clinical Practice B **1.00**
This intermediate level clinical course develops the RN role when working with clients with complex mental 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.

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.

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, neurosensory, 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.

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.

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.

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.

543-117
Contemporary Diabetes Care 4.00
This course provides an introductory overview of contemporary diabetes care. Intended for the health care generalist, this course is designed to increase the competency of care provided to individuals and groups affected by diabetes. The course presents basic elements that are essential to diabetes care as well as evolving information to meet best practice standards. Learners will explore the epidemiology, pathophysiology, and pharmacology related to diabetes. Concepts of theory and research will be examined by the learner to develop the plan of care for individuals and groups in a variety of settings. The course is intended for Registered Nurses and other interested health care providers that have frequent interaction with individuals and groups affected by diabetes. Prerequisite: Registered Nurse or other health care professional with the minimal entrance level of Associate Degree. Advanced health care students or other health care providers may be eligible to take the course with instructor approval. Ability to access the Internet and navigate the World Wide Web is required.

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.

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.

550-131
Disabilities and Substance Abuse 1.00
Three-part workshop to cover addictions and people with physical disabilities, addictions and people with cognitive disabilities, and people with disabilities: ethics and the law.

550-132
Assessment in AODA 1.00
Three-part workshop to cover assessment screening with AODA clients, understanding the AODA assessment process, and assessment for your AODA practice.

550-133
Treatment and Planning in AODA 1.00
Three-part workshop to cover adjusting to managed care treatment planning, documentation with a jury in mind, and treatment knowledge.

550-134
Substance Abuse/Ethical Dilemmas1.00
This course will focus on learning professional ethics for substance abuse counselors and incorporating these ethics into one's professional behavior. Continuing education and growth of substance abuse counselors will also be stressed.

550-135
AODA Client/Counseling 1.00
This class will stress basic counseling skills such as relationship building, goal setting, and intervention to change client behaviors.

550-136
Substance Abuse Population Group Counseling 1.00
This course will focus on group leadership skills. There will be an emphasis on effectively leading groups that address a variety of substance abuse issues.

550-137
AODA/Professional Issues 1.00
This course will address current professional issues in the practice of substance abuse counseling. Topics will include working with mandated clients, working with substance abuse clients in corrections, and working with diverse populations.

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.

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 equipmentat peak efficiency.

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.

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 & DC motors, and turbines.

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.

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.

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.

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.

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.

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).

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.

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.

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 gainsdue 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.

601-154
Power Engineer/Third Class II **2.00**

This lecture-format course will complete the knowledge requirement for obtaining the Third Class Power Engineer/Boiler Operator certification. Topics will include the safe operation and start-up of new boilers, emergency procedures, air compressors and their uses, and refrigeration applications.

601-155
Regulatory Compliance **2.00**

This lecture course will introduce the student to the Federal, State, and local regulations as they relate to the installation, operation, and repair of HVAC systems.

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.

601-160
Blueprint/Pipefitter Applications **1.00**

This course will teach the student how to read, find key information in, and interpret basic commercial blueprints. Instruction will include a review of print views and common symbols used inthe fitting trade. Students will practice on actual blueprints, gathering data and specifications for simulated exercises and practice in producing basic workable drawings for field use.

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.

601-176
Codes I **2.00**

This advanced level course will assist workers in understanding and following the National Fuel Gas Code.

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.

601-502
Refrigeration Commercial/ Industrial **1.00**

Topics include commercial refrigeration systems, applications, installation servicing, troubleshooting, heat loads and piping, absorption systems, and special refrigeration systems.

601-503
Steam & 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.

601-504
HVAC Lab **1.00**

This course is designed to provide students with hands on skills when they work with common refrigerant, refrigeration equipment, and refrigeration tools and practices.

602-104T
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.)

602-105
Automotive Electrical and Electronic Fundamentals **3.00**

An introductory automotive electrical course that introduces fundamental electrical theory and practices. Basic application of troubleshooting principles, electrical diagrams and equipment will be stressed.

602-106
Fleet Maintenance **2.00**

This course will cover the basics of preventative fleet maintenance. Equipment scheduling, maintenance, and repair will be covered in both lecture and lab experiences. Safety and chemical handling will be emphasized.

602-107T
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 underhood and under-car services.

602-122T
Auto IT for Transportation **2.00**

Modern vehicles use on-board computers to control just about every function from accident avoidance to video navigation. Communication between computers is handled over sophisticated networks. The modern toolbox is not only filled with computer-based tools it is likely to have a PC on it or in it and is likely to be networked to the rest of the shop and the internet. Today's automotive technician needs a thorough understanding of PC's, networks, synchronizing PDAs and operating systems. This course covers IT topics the modern technician is likely to encounter such as hardware and software installations, implementing a peer-to-peer network, and troubleshoooting hardware, software, and network failures.

602-124T
Steering & 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.

602-125
Electrical & 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.

602-125T
Electrical & 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.

602-126
Automotive Technology Implementation 2.00
This course will prepare the participant to certify a secondary auto program for the National Automotive Technicians education foundation (NATEF) certification. Additionally, the participant will receive instruction on the development of lesson plans and teaching methods utilizing electronic project boards that focus on the fundamentals of electrical troubleshooting.

602-127
Electrical & 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.

602-128
Electrical & 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.

602-142
Auto Electrical Systems 4.00
This course covers basic auto electrical circuit diagnosis, batteries, starting and charging systems, ignition systems (including conventional & electronic), and an introduction to computerized ignitionsystems. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-144
Auto Brakes 4.00
This course covers automotive braking systems. Diagnosis, adjustment, and repair of related systems will be emphasized. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-146
Auto Steering & Suspension 3.00
This course covers vehicle wheels, tires, alignment, steering, and chasis systems. Diagnosis, adjustment, and repair of related systems will be emphasized. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-147
Auto Mechanic & Electronic Fundamentals 3.00
This course covers the fundamentals of mechanical and electrical systems. Laboratory experiences will include shop safety, hand tool applications, fasteners, welding basics, electrical fundamentals, schematic reading, and DC circuit troubleshooting.

602-148
Auto Mechanic Fundamentals and Service References 3.00
In this course, the student will learn the basic skills of an Automotive Technician. Those skills include automotive shop safety, hazardous material handling, hand tool identification, hand tool safety, use of precision measuring instruments, thread repair, wiring repair, introductory welding, and proper lifting techniques. Additionally, the course will include instruction on using electronic information services, hard copy shop manuals, and Wisconsin automotive trade practice regulations (ATCP 132).

602-150
Auto HVAC 2.00
This course covers the operating principles of the modern automobile heating, cooling, and air conditioning (HVAC) systems. Diagnosis and servicing of vehicle cooling and HVAC systems will be emphasized. Successfulstudents will also receive their certification for Wisconsin ATCP 136 and Federal Clean Air Act Section 609 mobile air conditioning recovery. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-151
Auto Engine Minor & HVAC 3.00
This course covers the operating principles of the modern automobile engine and its mechanical, cooling, heating, and air conditioning (HVAC) systems. Disassembly, inspection, and reassembly of upper engine components will be accomplished. Diagnosis and servicing of vehicle cooling and HVAC systems will be emphasized. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-152
Auto Engine Minor 2.00
This course covers the operating principles of the modern automobile engine, along with its mechanical and cooling systems. Disassembly, inspection, and reassembly of upper engine components will be accomplished. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-153
Auto Brakes & Suspension 3.00
This course covers vehicle wheels, tires, alignment, and braking systems. Diagnosis, adjustment, and repair of related systems will be emphasized. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-155
Auto Simulation I 3.00
This course will allow the student to perform acquired skills in the areas of upper engine repair, vehicle cooling, heating and air conditioning systems, vehicle wheels, tire alignment, and braking systems. The affected repairs are to be done on customer vehicles, simulating a shop environment. A strong emphasis will be placed on customer relations and communications. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-156
Auto Instrumentation and Testing 3.00
This course covers the operation of diagnostic test equipment, including lab scope, scan tool, and dynamometer, and utilizes skills learned in Auto Engine Performance

1 and 2. Preparedness forthe ASE (Automotive Service Excellence) exam is emphasized.

602-157
Auto Engine Performance I **3.00**
This course covers basic auto electrical circuit diagnosis, battery, starting and charging systems, ignition systems (including conventional and electronic), and an introduction to computerized ignition systems. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-158
Brakes and Suspension Systems **4.00**
The brakes, suspension and steering systems of automobiles and light trucks are studied. The design and operation of late model systems including electronic controls and computerized 4-wheel alignment are emphasized. Technical lecture and laboratory work provide skill development in the repair and diagnosis of components and systems.

602-159
Auto Engine Performance **3.00**
This course covers the ignition system theory, diagnosis, and repair. It also gives an introduction to computerized engine control systems. The student will learn about input and output devices and computer self-diagnosis. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-160
Auto Advanced Emissions **2.00**
This course will focus on diagnosis and repair of vehicle emission systems. Emphasis will be placed on common problems associate with vehicles that fail the Wisconsin Emission Program tests.

602-163
Auto Chassis Electrical **2.00**
This course covers the electrical safety and accessory systems used on automobiles and light trucks. Emphasis is placed on circuit operation, testing, and diagnosis. Students will demonstrate skill byperforming the related ASE tasks on a vehicle.

602-165
Auto Engine Performance III **2.00**
This course covers the diagnosis and repair of computerized electronic systems as they are integrated into the engine controls. The content will cover the single wire, signal, and multi-plex wire pulse systems.

602-167
Auto Engine Performance IV **3.00**
This course will cover computerized fuel delivery and mixing systems, including both pressurized fuel injection and carbureted types. Vehicle emissions and air pollution regulations will be reviewed. Emission system diagnosis and troubleshooting, using a five gas analyzer, will be studied. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-169A
Auto Simulation IIIA **1.50**
This course will allow the student to perform vehicle service and repair on customer cars in a simulated shop environment. Services will include basic engine performance, maintenance, and repair, including engine mechanical, ignition, and fuel systems. A strong emphasis will be placed on customer relations, communications, and ASE required tasks.

602-169B
Auto Simulation IIIB **1.50**
This course will allow the student to perform vehicle service and repair on customer cars in a simulated shop environment. Services will include basic engine performance, maintenance, and repair of emissions control systems. On-board diagnostic and engine performance diagnostics will be covered. A strong emphasis will be placed on customer relations, communications, and ASE related tasks.

602-171
Auto Manual Transaxles **3.00**
This course will emphasize operational theory, failure analysis, techniques and diagnosis, construction, testing, and repair of manual drive train components.

602-172
Auto Chassis Dynamics **2.00**
This course covers theory and operation of computerized vehicle controls systems, including powertrain management, braking systems, and active suspension controls.

602-173
Auto Automatic Transmissions **3.00**
This course provides instruction in the construction, operation, and problem diagnosis of current model automatic transmissions used in passenger cars and light trucks. Students are prepared in this area for practical experiences they will typically encounter. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-174
Auto Advanced Powertrain Controls **2.00**
This course covers theory & operation of computerized vehicle controls systems, including powertrain management, braking systems, and active suspension controls.

602-175
Auto Simulation IV **2.00**
This course will allow the student to perform acquired skills in the areas of manual and automatic transmission repair. The affected repairs are to be done on customer vehicles, simulating a shop environment. A strong emphasis will be placed on customer relations and communications. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-177
Auto Engine Major **3.00**
This course covers the operation, construction, testing, and overhaul of automotive gasoline internal combustion engines. The areas that will be covered are engine design, diagnosis, disassembly, inspection,machining, and reassembly. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-178
Auto Service Simulation IV **3.00**
This course will allow the student to perform acquired skills in the areas of engine repair, brakes, steering and suspension, electrical/electronic systems, heating, ventilation and air conditioning,and engine performance. The affected repairs are to be done on customer vehicles, simulating a shop environment. A strong emphasis will be placed on customer relations and communications. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-179
Auto Simulation V **3.00**
This course will allow the student to per-

form acquired skills in the areas of major engine repair. The affected repairs are to be done on customer vehicles, simulating a shop environment. A strong emphasis will be placed on customer relations and communications. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-187
Auto Service Simulation III **2.00**
This course will allow the student to perform acquired skills in the areas of electrical systems, computerized electronic systems, computerized fuel delivery and mixing systems, and emissions systems. The affected repairs are to be done on customer vehicles, simulating a shop environment. A strong emphasis will be placed on customer relations and communications. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-188
Auto Service Simulation II **2.00**
This course will allow the student to perform acquired skills in the areas of auto electrical systems, starting and charging systems, ignition systems, and basic computerized engine control systems.The affected repairs are to be done on customer vehicles, simulating a shop environment. A strong emphasis will be placed on customer relations and communications. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-189
Auto Brakes **3.00**
This course covers automotive braking systems. Diagnosis, adjustment, and repair of related systems will be emphasized. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

602-190
Auto Service Simulation I **3.00**
This course will allow the student to perform acquired skills in the areas of vehicle wheels, tire alignment, and braking systems. The affected repairs will be done on customer vehicles, simulating ashop environment. A strong emphasis will be placed on customer relations and communications. Preparedness for the ASE (Automotive Service Excellence) exam is emphasized.

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.

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.

605-109
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.

605-115
Fire Alarm Signaling Systems **2.00**
This course provides a comprehensive treatment of the electrical circuitry involved in selected fire detection and alarm systems. The fundamental principles, design criteria and installation requirements for fire detection and alarm systems are considered in accordance with NFPA standards and manufacturer's guidelines. This course is for someone who already has a good understanding of electrical circuits and wants to understand the basics offire alarm systems.

605-118
Digital Electronics - Project Lead the Way **4.00**
This course in applied logic 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.

605-119
Grounding and Bonding **2.00**
This course is for the electrician who wants to understand the concepts of grounding and bonding. We will investigate the proper way to do grounding and bonding as well as look at the results of improper grounding and bonding. You will learn about proper grounding requirements as stated in Article 250 of the National Electric Code. Proper grounding of sensitive electronic equipment will also be discussed.

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.

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.

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 integratedcircuits.

605-131
PLTW Digital Electronics Part 1 2.00
Digital Electronics TM is the study of electronic circuits that are used to process and control digital signals. The major focus of the DE course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. Utilizing the activity-project-problem-based (APPB) teaching and learning pedagogy, students will analyze, design and build digital electronic circuits incorporating the use of computer simulation programs and the physical construction of live circuits. While implementing these designs students will continually hone their interpersonal skills, creative abilities and understanding of the design process.

605-132
PLTW Digital Electronics Part 2 4.00
Digital Electronics TM is the study of electronic circuits that are used to process and control digital signals. The major focus of the DE course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. Utilizing the activity-project-problem-based (APPB) teaching and learning pedagogy, students will analyze, design and build digital electronic circuits incorporating the use of computer simulation programs and the physical construction of live circuits. While implementing these designs students will continually hone their interpersonal skills, creative abilities and understanding of the design process.

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.

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.

605-153
Analog Telephony 1.00
The Analog Telephony class teaches in-depth concepts of telephony theory and operation. These skills, abilities, and knowledge are beneficial for a student seeking employment in the telecommunications field.This class meets some of the requirements for the proposed ETA-1 Telecommunications CET certification test.

605-154
Public Switched Telephone Network Hierar 1.00
This course will define the different office classes, including 1 through 4 and class 5 end office functions. Interoffice signaling, including CCIS and SS7, along with trunking, will be covered.

605-155
Analog/Digital Conversions 1.00
The Analog/Digital Conversions class teaches basic concepts of converting signals from A/D or D/A. Pulse Amplitude Modulation (PAM) will be defined, including sampling techniques and quantization, along with Pulse Code Modulation (PCM) and how it is utilized for both voice and video. An overview of Voice over IP (VoIP) will also be presented. These skills, abilities, and knowledge are beneficial for a student seeking employment in the telecommunications field.

605-156
Distribution Equipment & 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.

605-157
Copper Digital Signal Rates and Framing 1.00
This course will include time division multiplexing and demultiplexing theory, DS0 through DS3, synchronous versus asynchronous communication protocols, and ISO synchronous systems.

605-158
ISDN Telephony 1.00
This course will introduce the student to PRI and BRI rates. Payload and overhead will be defined. Interface node identification and DSL will also be covered.

605-159
Fiber Optics Theory & 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.

605-160
Optical Carrier Transmission Rates and Protocols 1.00
This 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. Telecommunications is the broad field of providing communications through electronic means, using various mediums. We will specifically focus on fiber as the medium. This class meets some of the hands-on requirement for the Electronic Technicians Association, International (ETA-I) Certified Fiber Optic Installer (CFOI) test.

605-161
Network Operations - CPE 1.00
This course will include: KSU, PBX, routers, multiplexers and demultiplexers, Unix job control and administration, TL1 language and common commands, documentation control, and problem tracking and escalation.

605-162
Installation, Maintenance, and Testing 1.00
The Installation, Maintenance, and Testing class teaches basic concepts of telecommunications wiring installation, maintenance, and testing. These skills, abilities, and knowledge are beneficial for a student seeking employment in the telecommunications cabling field.

605-163
ISP and OSP Safety in a Telecom Environ **1.00**
The Safety in the Telecomm Environment 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. This class meets some of the requirements for the ETA-I Residential Electronics Systems Installer (RESI) certification.

605-164
Wireless Telephony **1.00**
This course explains the world of central office switches and signaling protocols, exploring every phase of telephony, from billing to caller ID to voice routing protocols. It also covers the Internet and the IP protocol stack to explain the world of routers and connectionless IP. The course examines how local, national, and global organizations can employ Internet telephony both to save money and to provide services, ranging from Internet faxing to solving a multitude of business problems.

605-165
Telephony **3.00**
The Telephony class teaches in-depth concepts of telephony theory and operation. This course will introduce the student to PRI and BRI rates. Payload and Overhead will be defined. Interface Node Identification and DSL will also be covered. This course explains the world of central office switches and signaling protocols, exploring every phase of telephony, from billing to caller ID to voice routing protocols. It also covers the Internet and the IP protocol stack to explain the world of routers and connectionless IP. The course examines how local, national, and global organizations can employ Internet telephony both to save money and to provide services, ranging from Internet faxing to solving a multitude of business problems. Students will have the opportunity to earn an industry recognized Certification. This class meets some of the requirements for the purposed ETA-I Telecommunications CET certification test. These skills, abilities and knowledge, are beneficial for a student seeking employment in the telecommunications field.

605-166
Telecom Safety & 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.

605-167
Fiber Optics **3.00**
The Fiber Optics class teaches basic concepts of fiber optics installation and service. Students will explore basic concepts of fiber optic data transmission. This course will include; Time Division Multiplexingand Demultiplexing theory, DSO through DS3, Synchronous versus Asynchronous communication protocols, and Iso synchronous systems. Students will have the opportunity to earn a Fiber Certification. This class meets some of the Hands-On requirements for the ETA-I Certified Fiber Optic Installer (CFOI) test. These skills, abilities, and knowledge are beneficial for a student seeking employment in the telecommunications cabling field.

605-169
Network Data Transmissions **3.00**
The Analog/Digital Conversion class teaches basic concepts of converting signals from A/D or D/A. Pulse Amplitude Modulation (PAM) will be defined, including sampling techniques and quantization, along with Pulse Code Modulation (PCM) and how it is utilized for both voice and video. An overview of Voice over IP (VoIP) will be also presented. This course will define the different Office Classes, including 1 through 4 and Class 5 End Office functions. Interoffice signaling, including CCIS and SS7, along with Trunking will be covered. It will also include: KSU, PBX, Routers, Multiplexers and Demultiplexers, Unix Job Control and Administration, TL1 language and common commands, DocumentationControl, and Problem tracking and escalation. Students will have the opportunity to earn an industry recognized Certification. These skills, abilities, and knowledge are beneficial for a student seeking employment in the telecommunications field.

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.

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.

605-177
Electrical Print Interpretation **2.00**
After completing this course, students will be able to: identify the various styles of electrical schematics and drawings; identify the component symbols and their application in the circuit; acquire the ability to assemble basic electrical circuits from schematics; and draw circuits which meet given criteria.

605-178
Electrical Code Interpretation **2.00**
The course covers the basic layout of the National Electrical Code and interprets some of the basic articles within the code. Emphasis will be placed on the articles associated with an industrial environment. The course will prepare the student for further in-depth study of various articles, within the code, specific to their work environment.

605-179
Computer Applications **4.00**
An introduction to computer graphics, microprocessor architectures, microcompressor controllers. Phototype design and interfacing. Study of new hardware available in the computer field.

605-180
Computer Systems **4.00**
A current popular computer operating system is studied, with emphasis on the

16-bit and 32-bit machines. Laboratories include customized installation, diagnostic analysis, hardware and software troubleshooting.

605-181
Computer Hardware Architectures 3.00
This course will introduce the hardware architecture of the personal computer platform. Topics covered are motherboard, BIOS system, extension buses, serial ports, parallel ports, and Universal Serial Bus, ports, hardware upgrade procedures, and troubleshooting hardware using electronic test equipment.

605-182
Computer Interfacing Techniques 3.00
This course will examine different hardware interfacing techniques used in the personal computer. Topics covered are programmable, plug- and-play, strobe, infrared, local-bus to Industry Standard Association, local-bus to serial devices, local-bus to parallel devices, and local-bus to universal serial bus.

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.

605-184
Data Acquisition 3.00
This course is a study of computer based data acquisition, utilizing both LabVIEW and Visual Basic as the method of control. Students are introduced to data analysis, utilizing computer based methods. A project will be developed by the student upon completion of the course.

605-186
Changes to the NEC 2.00
This course covers the changes that have been made to the National Electric Code. The student should be familiar with the 2005 National Electric Code.

605-187
NEC Interpretation Part 2 2.00
The course covers the basic layout of the second half of the National Electric Code and interpreting some of the basic articles within the code. Emphasis will be placed on the articles associated with an industrial environment. The course will prepare the student for further in-depth study of various articles within the code specific to their work environment.

605-188
Electrical Code Interpretation 2 2.00
This course covers the basic layout of the second half of the National Electric Code and interpretation of some of the basic articles within the code. Emphasis will be placed on the articles associated with an industrial environment. The course will prepare the student for further in-depth study of various articles within the code specific to their work environment.

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.

605-193
Computer Operating Environment 3.00
This course will provide students with various techniques to evaluate operating architecture of single, multiple and network environment. Students develop critical evaluation skills using available hardware and software tools. Emphasis will be on preventive maintenance, troubleshooting, and fine tuning an operating environment to achieve optimum performance. Students will materialize a project.

605-194
Computer Communications 3.00
This course will provide students various techniques to evaluate software and hardware architectures of computer network communications. Students will perform changes as per engineering change orders orrecommend changes to improve performance of a network. Design an inter-network as per described specifications and troubleshoot hardware and software of computer network communications. Students will materialize a project.

605-195
C Programming for Technician 3.00
This course will examine the architecture of the C language. Students will write programs applying various techniques used in engineering a publication. Students will use different programming debugging techniques. Students will learn to write customized programs to achieve optimum performance. Students will materialize a project.

605-196
Computer Controls 3.00
This course will provide students with the computerized control techniques used in industry. Students will experiment with various computer hardware and software interfacing techniques. Students will use current technology in the classroom and laboratory. Hardware and software troubleshooting of various microprocessor controllers will be discussed. Students will materialize a project.

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.

606-100
Technical Drafting, Basic 3.00
Use of instruments, use of drafting machines, blueprinting, geometric constructions with emphasis on appropriate line weights and general drafting skill, multiview drawing, sketching, dimensioning, layout, introduction to vector construction and proceeding to simple working drawings.

606-107
Drafting Seminar/CAD 2.00
Emphasis on latest developments in drafting methods, materials and applications. Projects are undertaken utilizing a variety of CAD systems other than those taught in 606-126 Computer Aided Drafting.

606-109
Geometric Dimensioning for Design 1.00
A study of geometric tolerancing based on the latest ANSI Y14.5 Standards. Items covered include datums, positional, form, and runout tolerances. Also covered are modifier symbols and terms associated with GDT.

606-110
Geometry/Descriptive 2.00
Spatial relationships of points, lines, surfaces and solids. Auxiliary views, true-size

constructions, revolution, developments, cutting planes, graphical treatments of vectors and classification of surfaces are included.

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.

606-112
CAD Applications **2.00**
Directed to non-drafting/design student to familiarize one with basic CAD applications of drafting, dimensioning and graphics in business.

606-115
Computer Assisted Design **3.00**
Develops computer software for the purpose of analyzing typical problems in this discipline. Flow charting, de-bugging programs, verifying and presenting results in a professional format are stressed.Fortran Language is used.

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.

606-117
Electromechanical Draft/CAD **3.00**
Basic electrical and electronics will be covered in this course. Motors, generators and controls will be introduced. Electrical and electronic symbols will be developed and schematics drawings made on the board as well as on the CAD system.

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.

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 togetherto 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.

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, datumconstruction, 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.

606-126A
Computer Aided Drafting A **1.00**
This course is a study of basic interactive computer graphic commands used in the creation of lines, circles, arcs, fillet, etc. All work is done on the computer.

606-126B
Computer Aided Drafting B **1.00**
Students further study interactive computer graphics commands. Students also learn dimensioning, cartesian and polar coordinates, erase and zoom commands, and modify commands. All work is done on the computer.

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.

606-127A
CAD Intermediate A **1.00**
In this course, students learn advanced dimensioning concepts. They also edit and modify various types of entities, such as dimensions, hatch patterns, and text.

606-127B
CAD Intermediate B **1.00**
Students use advanced CAD concepts, including use of grips, attributes, external references, W Blocks, and menu customization and profiles.

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.

606-128A
CAD Solids A **1.00**
Students learn how to use the computer and CAD system to create solid models of various machine components.

606-128B
CAD Solids B **1.00**
This course covers the use of the computer and CAD system to further create

models by connecting solid parts into conventional orthographic drawings, including sections, auxiliary views, and dimensions.

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.

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.

606-132
Technical Drawing 1 **2.00**
This course is an introduction to mechanical drawing: equipment, lettering, sketching, orthographic projection, and basic dimensioning. Drawing may be done using the drafting board, although use of the CAD system is recommended.

606-132A
Technical Drawing 1A **1.00**
This course is an introduction to mechanical drawing. Equipment, lettering, sketching, and orthographic projection are covered.

606-132B
Technical Drawing 1B **1.00**
This course is an introduction to orthographic projection, basic dimensioning, and applied geometry. This may be done using the drafting board or the CAD system.

606-133
Technical Drawing 2 **2.00**
This course covers advanced orthographic drawings, sections, machine callouts, threads, tolerancing, keys and keyways, and use of finish symbols.

606-133A
Technical Drawing 2A **1.00**
Students learn advanced orthographic showings, sections, and machine callouts.

606-133B
Technical Drawing 2B **1.00**
Students learn to create advanced orthographic drawings, which involve threads, tolerancing, keys and keyways, and the use of finish symbols.

606-134
Technical Drawing III **3.00**
Study of advanced dimensioning practices, tolerancing, uses of standard parts and material sizes, gears, sprockets, pulleys, and cams are also covered as well as assemblies, weldments, welded assemblies, and parts lists.

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 wherestudents learn the operations of gas and arc welding.

606-138
Design Problems **2.00**
Analyze problems, gather data, sketch ideas, do necessary mathematical calculations, and make working drawings of a design project. Judgment and initiative are developed.

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.

606-143
Technical Drawing 3 **2.00**
Students will create basic primary and secondary auxiliary views and determine the true shapes and sizes of inclined features and angles of intersection between intersecting and non-intersecting surfaces.

606-143A
Technical Drawing 3A **1.00**
Students will draw basic primary and secondary auxillary views.

606-143B
Technical Drawing 3B **1.00**
Students will determine the true shapes and sizes of inclined features and angles of intersecting and non-intersecting surfaces.

606-144
Technical Drawing 4 **2.00**
An introduction to basic and advanced assembly drawings. Students determine fits and limits and create weldments and welded assemblies using proper weld symbols. Use of standards parts, such as fasteners and retaining ring bearings, is also covered.

606-144A
Technical Drawing 4A **1.00**
This course is an introduction to basic assembly drawings. Students determine what standard parts to use in a typical basic assembly drawing.

606-144B
Technical Drawing 4B **1.00**
This course is an introduction to advanced assembly drawing. Students determine fits and limits and create weldments and weld assemblies using proper weld symbols.

606-145
Technical Drawing 5 **2.00**
The design and application of power transmission components are covered, including orthographic drawing and nomenclature of gears, cams, sprockets, and pulleys. Students also learn to create

sheet metal drawings, find intersections, and create developments of various sheet metal shapes (e.g., prisms, cylinders, and transition pieces).

606-145A
Technical Drawing 5A **1.00**
The design and application of power transmission components are covered, including orthographic drawing and nomenclature of gears, cams, sprockets, and pulleys.

606-145B
Technical Drawing 5B **1.00**
Creating sheet metal drawings, finding intersections, and creating developments of various sheet metal shapes (e.g., prism, cylinder, transition pieces), are taught in this course.

606-146
Technical Drawing 6 **2.00**
Students create and dimension selected pictorial drawings, including isometric perspective and oblique. Also covered is the application of schematic and block diagrams of electronic and fluid power devicesand double line pipe drawings.

606-146A
Technical Drawing 6A **1.00**
Students create and dimension selected pictorial drawings, including isometric, oblique, and perspective projections.

606-146B
Technical Drawing 6B **1.00**
Students in this course learn the application of schematic and block diagrams of electronic and fluid power devices and double line pipe drawings.

606-147
Technical Drawing 7 **2.00**
Students select a design project (with instructor approval) and create the necessary working drawings that would allow the design to be manufactured. In so doing, the student will use basic measuring equipment, create a bill-of- materials, and select parts from vendor catalogs.

606-147A
Technical Drawing 7A **1.00**
Students select a design project and create detailed drawings using basic measuring equipment.

606-147B
Technical Drawing 7B **1.00**
Students further develop their design project by drawing the assembly views, creating a bill of materials, and selecting from vendor catalogs.

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.

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.

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.

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.

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.

606-158
Materials of Industry **3.00**
Properties of engineering materials in relation to cost fabrications, design and durability. Strength, density, elasticity, corrosion resistance, conduction and fabrication characteristics of metals, plastics and ceramics.

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.

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.

606-186
Mechanical Design, Directed Study I **1.00**
Individualized instruction and project is assigned to the student in the appropriate subject as assigned by the instructor. Gives student an opportunity to work through a project that is practical and meaningful to the occupation for which they are preparing. Is also used for co-op learning.

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).

606-500
CAD Introduction/Apprentices 1.00
Introductory level course in CAD. Topics to include creating lines, circles, text and polygons as well as editing commands such as trim, extend, erase and offset using latest CAD software.

607-101
Civil Engineering Tech Orientation 1.00
This course is an introduction to the Civil Engineering Tech program and the various media which are used to teach. The different emphases are explored and explained. CET students will develop a 'game plan' to complete their classes over the next few years.

607-102
Conflict Resolution in Engineering/ Construction 2.00
This course is designed to teach students how to better handle and attempt to defuse various confrontational situations in the workplace and on the job site.

607-103
Civil Engineering And, Introduction to Architecture 2.00
This course is designed to introduce students to the wide variety of opportunities and career employment within the fields of Civil Engineering and Architecture.

607-105
Future Trends- CAD in Civil Engineering 1.00
This one credit seminar is designed to expose and teach new technology within the areas of Computer Aided Design (CAD) in the areas of Civil Engineering and Architecture. Since the topic may vary depending on what the 'new technology' is each semester, please consult with the instructor for the exact topic.

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 buildingmaterials. covered.

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.

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.

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...including utilizing handheld GPS receivers and incorporating the data. Applications ranging from land record management to marketing to political science are addressed.

607-118
Geographical Information Systems II 3.00
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.

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.

607-123
AutoCAD for Civil Technicians/ Introduction to 4.00
This course is a basic introductory course on the functions of CAD within the Civil Engineering field. Students are initially trained in AutoCAD, then cross-trained into MicroStation. Basic Civil and Architectural drawings discussed in Building Materials and Construction Methods are used to help to develop applications of CAD techniques.

607-124
AutoCAD Applications for Civil Technicians 4.00
This course furthers the application of CAD techniques already developed...expanding into three dimensional design and analysis. Students learn how to develop a Digital Terrain Model(DTM) based on survey shots, produce existing contours, cut existing profiles and cross sections. Students also learn how to develop three dimensional objects and develop 3-D animated walk thru(s) for visual presentation of student designs...including developing 3-D animated walk- thru(s) of DTM's obtained from field surveys.

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 & Profiles, Cross Sections, Sewer Profiles, Alignment Tie Sheets, etc.

607-128
Construction Estimating 3.00
Students will learn the preparation of cost estimates for materials, labor, and equipment in building construction relative to major components of the construction process. Time and money components are also addressed in both a unit production and a project evaluation using the critical path method.

607-129
Future Trends in Civil Engineering/ Architectural Technology 2.00
This two credit course is designed to expose and teach new technology within the areas of Civil Engineering and Architecture. Since the topic may vary depending on what the 'new technology' is each semester, please consult with the instructor for the exact topic.

607-132
Structural Mechanics - Civil Engineering 3.00
This course introduces students to the basic principles of structural mechanics

(statics and strength of materials) and design, with special emphasis placed upon application of these principles in the design and construction of commercial buildings. Detailed solutions to a number of problems in basic structural engineering are presented.

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.

607-135
Reinforced Concrete - Design & 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 axiallyloaded columns.

607-136
Construction Project Management **2.00**
This course is designed to expose students to construction project management and introduce tools to effectively manage construction projects.

607-142
Reinforced Concrete Design **3.00**
Using ACI-318, students will learn how to design and detail structures using reinforced concrete.. including simple beams, cantilevers, retaining walls, and axially loaded columns. followed by designwork. Retaining walls, eccentrically-loaded columns and slabs.

607-144
Steel Design **3.00**
Using AISC LRDF & ASD design methods, students will learn how to design structures using steel... including simple beams, cantilevers, and axially loaded columns. Design of connections will also be addressed.

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.

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, 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 acquainted with the principles and software applications in designing water and sewer lines.

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.

607-162
Materials Testing **2.00**
The testing of materials used in various fields of construction. The principle means of performing destructive and nondestructive tests are shown, then performed. Results are analyzed.

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.

607-180
AutoCAD for Architecture **2.00**
This course teaches the participant the basics of Computer Aided Drafting using AutoCAD. Upon successful completion, the participants will be able to create drawings using various commands and apply text to their work. They will be able to open, modify, print, and save their drawings.

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

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.

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.

607-184
Environmental Impact Assessments **2.00**
Review of process and content of environmental impact assessments including evaluation of environmental impacts and alternatives

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.

607-186
Erosion Control in Construction **2.00**
Review of techniques for design, installation, inspection and maintenance of erosion and sediment control practices for construction sites.

612-100
Fluid Power Basic **3.00**
The language of fluid power, its engi-

neering and technical importance and its field of application. The pertinent laws of mechanics and principles of physics are illustrated through the use of standard fluid power components and laboratory experiments.

612-101
Fluid Power Circuitry **3.00**
Hydraulic pneumatic and electrical circuits are assembled and tested to provide a good understanding of the symbols and language used. Some of the circuits are: hydrostatic drives, constant speed drive, electrically controlled hydraulic circuits including air over oil and fluidically controlled hydraulic circuits.

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.

612-103
Introduction to Fluid Power/ Pneumatics **2.00**
This course defines and describes the basic physical laws that apply to fluid power. Fluid power/pneumatic symbols, terminology, and system hardware will be covered. Learning is accomplished in classroom and hands-on laboratory projects.

612-106
Fluid Mechanics/Applied **3.00**
Assembly and testing of common hydraulic circuits and components under laboratory conditions. Industrial pressures and circuitry are used wherever practical.

612-108
Pneumatics **2.00**
Fundamental principles governing pneumatics are studied. The physical laws of compression, and various types of compressors and auxiliary equipment. The operation of pneumatic control valves, actuators and the distribution of air is covered. Typical industrial pneumatic circuits are built and operated in the lab.

612-110
Hydraulic Circuits and Systems/ Advanced **3.00**
This combined lecture/laboratory course will provide advanced training in mobile and industrial hydraulic systems. Specific training will include open and closed center systems, hydrostatic transmission systems, heat generation and transfer and sound measurement.

612-111
Servo and Proportional Controls/ Advanced **2.00**
This combined lecture/laboratory course will provide advanced training in hydraulic servo valve and pump control systems. Emphasis will be placed on design, assembly and troubleshooting of these systems.

612-112
Fluid Power Certification Refresher **2.00**
This lecture course is designed to assist the student in preparation for the Fluid Power Society Specialist Exam. Emphasis will be placed on instruction concerning the knowledge requirements for the current Specialist Exam.

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.

612-117
Fluid Power Systems/Applied **3.00**
Various areas of fluid power application will be studied including mobile hydraulics, hydrostatic drives, servo controlled systems and special circuit problems.

612-154
Component Testing and Analysis **3.00**
Various methods used in analyzing the physical parameters of a hydraulic system. The various parameters and means of measuring them will be developed. Set up hydraulic systems, obtain operational data. Analyze the data and prepare technical reports on the test and test significance.

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.

614-108
Residential Code **1.00**
Study of the Wisconsin Uniform Dwelling Code is emphasized in this course. Students will complete projects that demonstrate their understanding of the code.

614-110
Architectural Drafting/Residential **3.00**
Using the applicable codes, students develop a complete set of working drawings and specifications for a residential building.

614-114
Commercial Code **2.00**
Study of the Wisconsin Commercial Code is emphasized in this course. Students will complete projects that demonstrate an understanding of the code.

614-115
Architectural Drafting/Commercial **3.00**
Using the applicable codes, students will develop a complete set of working drawings and specifications for a six story multiple-use commercial building.

614-139
Surveying Fundamentals **2.00**
The basic principles of surveying are presented, and the use of surveying tools and instruments in the application of building construction is covered.

614-140
Mechanical Systems for Buildings **3.00**
This course is an introduction to the broad field of mechanical systems as they relate to building design. It will provide students with the information and tools required to assess the need for these systems in buildings.

619-101
Plastics/Introduction to **3.00**
Introduction to the main plastics processing industries, techniques and commonly used polymers. The student will be provided with relevant information that will enable them to investigate the career possibilities in the plastics industry and determine whether plastics is the choice for them to pursue. This course will provide a foundation on plastics materials, processes, properties and applications.

619-110
Plastics Injection Molding 3.00
Provides the student with knowledge of the injection molding process, equipment, components and industry. Lab work includes set up, start up, operation, changeover, safety and optimization of an injection molding machine, mold and all associated support equipment. Process trouble- shooting through simulation software and actual machine operation will be performed with several common molding materials.

619-120
Plastics Molding Problems and Solutions 2.00
Concentrates on troubleshooting problems that may arise in the injection molding process. Students will utilize the lab equipment to process through processing problems and practice various remedies. This hands-on approach will be supplemented by simulation software and a thorough discussion of the theory and proven methods behind the science of injection molding. Efficient production of quality parts is emphasized. All possible contributing variables are examined to include primary equipment, molds, auxiliary equipment, environment and materials. Students will be encouraged to present 'real' problems for analysis in the lab.

619-130
Plastics Advanced Troubleshooting2.00
Investigate current methods of diagnosis and adjustments available with advance control systems and software. Utilize software/hardware to monitor, analyze and correct processes.

619-140
Plastics Extrusion 2.00
Students will learn to set up, operate, and troubleshoot extrusion and blowmolding equipment. Screw design and extrusion downstream equipment will be investigated.

619-150
Plastics Secondary Operations 2.00
This course takes an in-depth look at the most common secondary operations currently utilized in plastics manufacturing including assembly, finishing, decorating and packaging. The course will also investigate new and innovative plastics operations that may have great potential for cost savings and quality improvement. Lab work will include ultrasonic welding, mechanical fastening, adhesives, decorating, bonding methods, surface preparationand coating.

619-155
Plastics Quality Systems 3.00
This course will provide training in the fundamentals of quality control, measurement techniques and instruments, QC systems commonly used in the plastics industry, SPC, transducer technology, PLC systems, software and control systems. participants will be required to demonstrate skills needed to plan, implement, maintain and improve quality assurance.

619-175
Plastics Manufacturing Internship 1.00
The internship will be performed by working at a local plastics manufacturing company and satisfactorily accomplishing the competencies. This is a hands-on requirement that provides on-the-jobtraining to participants in their plastics career environment. Interns will be exposed to many aspects of the Plastics Set-up Technician's duties, tasks and responsibilities.

619-180
Plastics Process Control Systems 2.00
The study of PLC's, PC's and associated software commonly used in plastics manufacturing. Examine switches, sensors, conveyors, assembly systems, auxiliary systems, sprue pickers, robotics, andtheir applications.

619-185
Plastics Materials Testing and Properties 3.00
This course covers physical, chemical and mechanical testing of plastics materials with respect to ASTM and ISO. Utilization of computer software will be emphasized for data acquisition, materials selection, and evaluation of properties.

619-190
Plastics Engineering 3.00
Combine knowledge from various areas to work through an engineering project, conduct an engineering study or analyze/solve production problems. Examine various cost savings opportunities found in plastics manufacturing plants to include automation.

619-300
Plastics/Introduction To 3.00
Introduction to the main plastics processing industries, techniques and commonly used polymers. The student will be provided with relevant information that will enable them to investigate the career possibilities in the plastics industry and determine whether plastics is the choice for them to pursue. This course will provide a foundation of information on plastics materials, processes, properties and applications.

619-310
Injection Molding I 3.00
Provides the student with knowledge of the injection molding process, equipment, components and industry. Lab work includes set-up, start-up, operation, changeover, safety and optimization of an injection molding machine, mold and all associated support equipment. Process troubleshooting through simulation software and actual machine operation will be performed with several common molding materials.

619-311
Molding Problems and Solutions 2.00
Concentrates on troubleshooting problems that may arise in the injection molding process. Students will utilize the lab equipment to process through processing problems and practice various remedies. This hands-on approach will be supplemented by simulation software and a thorough discussion of the theory and proven methods behind the science of injection molding. Efficient production of quality parts is emphasized. All possible contributing variables are examined to include primary equipment, molds, auxiliary equipment, environment and materials. Students will be encouraged to present real problems for analysis in the lab.

619-350
Plastics Manufacturing/Secondary Operations 3.00
This course takes an in-depth look at the most common secondary operations currently utilized in plastics manufacturing including assembly, finishing, decorating and packaging. The course will also investigate new and innovative plastics operations that may have great potential for cost savings and quality improvement,

lab work will include ultrasonic welding, mechanical fastening, adhesives, decorating, bonding methods, surface preparation and coating.

619-355
Plastic Quality Systems 3.00
The course will provide training in the fundamentals of quality control, measurement techniques and instruments, QC systems commonly used in the plastics industry, SPC, transducer technology, PLC systems, software and control systems. Participants will be required to demonstrate the skills needed to plan, implement, maintain and improve quality assurance.

619-375
Plastics Manufacturing Internship 1.00
The internship will be performed by working at a local plastics manufacturing company and satisfactorily accomplishing the competencies. This is a hands-on requirement that provides on-the-jobtraining to participants in their plastics career environment. Interns will be exposed to many aspects of the Plastics Set-up Technician's duties, tasks and responsibilities.

620-100
Electro/Hydraulic Systems 2.00
Electro/Hydraulic Systems introduces the students to the control of hydraulic systems through the use of electrical controls. The student becomes familiar with the electrical elements used in the control system. The student learns to read and design electrical and hydraulic circuits using schematics, wiring diagrams, ladder diagrams, sequence charts. The course studies the use and design of hydraulic servo systems. The student will be requiredto design and build the hydraulic systems. This includes the design and troubleshooting of the circuits.

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.

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 abackground 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.

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.

620-103A
Intro to Industrial Controls 80 Hrs 3.00
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.

620-103B
Intro to Industrial Controls 28 Hrs 1.00
Industrial electrical hardware such as motors and controls are studied. Application of Ohm's law, calculating wattage, choosing and using proper sensors.

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.

620-105
Wiring Fundamentals 1.00
Students learn how to safely wire basic electrical equipment in this course. This includes switches, receptacles, light fixtures, circuit breakers, and fuse panels. Students will gain working knowledge ofbasic electricity and basic wiring techniques. Thecourse will include homework and hands on wiring of equipment. National and state codes will be discussed.

620-106
Introduction to Control Logix 2.00
The operation of the ControlLogix 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 and output of the control.

620-107
Industrial Communication Systems 3.00
This course provides comprehensive coverage of Data Communications and Computer/Device networking in an industrial environment. Topics range from simple serial communications to complex networks. This includes systems that are wired, wireless, and fiber optic based. Practical examples of networks will include Ethernet, WiFi, Data Highway, DH-485 , Remote I/O, Device Net, Control Net, EtherNET/IP, and the SERCOS fiber optic link. Devices discussed will include computers (PC's), Programmable Logic Controllers (SLC-500, ControlLogix, MicroLogix), and Panel View. Lecture theory is reinforced with laboratory exercises including assembly, monitoring, programming, and troubleshooting.

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. Electri-

cal 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.

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.

620-112
Robotics Mechanics II 3.00
The student will study applications of electromechanical machines. The elements of microprocessor interfacing will be covered. The student will interface an electromechanical machine to the computer, interface the necessary feedback devices and write software to program the control of the machine. A special project related to microprocessor control will be completed by the student.

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 alongwith 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.

620-114
Programming for Technicians/ Applied 2.00
A study of the C language and its applications to engineering programming is conducted in this course. The course book describes the C programming language, by example, to non-programmers. Students are introduced to computer hardware, structured programming techniques, C language structure and syntax, editing techniques, and program coding. Applications are directed to solving problems related to the numerical and data handling problems faced by the engineering technician. The student will be able to write structured programs, compile them in the computer, troubleshoot any errors, and document the function and input/output of the program.

620-115
Programming Systems/EM 2.00
Programming Systems teaches the student to interface computers to electromechanical systems for real-time control applications. Various computer interfaces and programming languages are combined to control electromechanical systems. C language applications are combined with assembly language routines to control systems. The course book describes the C programming language for non-programmers. Students continue the study of C and assembly language begun in other courses. Applications are directed to solving problems related to the numerical and data handling problems faced by the engineering technician. The student will be able to apply computer control to real-time system control.

620-116
Introduction to Robotics 3.00
This course is designed for the maintenance person who has no robotic experience. Basic control elements of robots will be studied. Basic robot programming will be studied and applied. Safeguards of working in the vicinity of robots will be discussed.

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.

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.

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.

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.

620-501
Programmable Logic Controllers 0.50
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.

621-101
Welding/Oxyacetylene and Fabrication Technical Study 4.00
This course instructs in safety, equipment usage, and procedures with steel and braze filler rods in four basic welding positions and cutting. Provides considerable hands-on experience as well as technical information. Fabrication is also required.

621-102
Welding/SMAW Technical Study 4.00
This course instructs in safety, equipment usage, and procedures with various electrodes in four basic welding positions. Provides considerable hands-on experience as well as technical information.

621-103
Welding/GTAW-Technical Study 4.00
This course instructs in safety, equipment usages, and procedures with various filler metal in four basic welding positions. Provides considerable hands-on experience as well as technical information. Plasma arc cutting instruction is also included.

621-104
Welding/GMAW-Technical Study 4.00
This course instructs in safety, equipment usage, and procedures with various wires in four basic welding positions. Provides considerable hands-on experience as well as technical information.

623-104
Manufacturing Issues Seminar 2.00
This course covers the application of the principles and techniques for analyzing and solving industrial situations learned in prior course work. Projects are undertaken utilizing a Microsoft Project format. A project focusing on a quality control situation is highly recommended.

623-115
Statistics for Manufacturing 2.00
This introductory course in statistics covers the applications encountered by a technician in industry. Topics include: descriptive statistics, including charts, plots, and frequency distributions; common measures of central tendency and dispersion; probability distributions, with emphasis on the normal distribution; and published sampling plans. Calculators and computer software are used. This course covers statistical topics on ASQ technician certification exams.

623-124
Advanced Engineering Design Concepts I 2.00
This course introduces the student to the first stage of design: problem definition. Students will use brainstorming techniques to find many possible solutions. Through analysis, the solutions are narrowed to one and a report is developed.

623-125
Advanced Engineering Design Concepts II 2.00
This course introduces the student to modeling. Both the problem and solution are modeled using various techniques. Various forms of modeling will be introduced: computer, mathematical,and physical.

623-126
Advanced Engineering Design Concepts III 2.00
In this course, the student will develop criteria for testing their solution and analyze how well their solution solved the problem. A presentation of their findings is given to the class.

623-127
Advanced Engineering Design Concepts IV 2.00
This course introduces the student to problem/ solution documentation, life cycle costing, and technical report writing.

623-138
Auditing Quality Systems 3.00
This course is designed to provide a broad overview of the auditing function with intensive attention to the ISO 9000 system(s). Students will learn all phases of a quality audit, from the outset in the planning phase through the final report and follow-up operations. The course will also cover the twenty elements of ISO 9001.

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.

623-154
Metrology - Geometric Dimensioning and Tolerancing 1.00
This course is a study of geometric dimensioning and tolerancing based on ANSI Y14.5. It stresses the interpretation of geometric tolerances, applying the five categories of feature control: position, form, orientation, runout, and profile. It also covers applying datums, interpreting material condition modifiers, and concepts of fixed and floating fasteners. Measurement procedures and gaging are discussed.

623-155
Metrology - Coordinate Measurement Machines 1 1.00
This course is a study of the application of coordinate measurement machines that stresses the hands-on use of the CMM. It utilizes a manually operated, computer based machine equipped with a manual rotation touch-probe. It provides background in the theory of operation and concepts of geometric measurements. It covers probe calibration, part alignment

systems, effective measurement techniques, and computing part geometries. It also reviews programming repetitive functions and discusses operator machine maintenance.

623-156
Metrology - Coordinate Measurement Machines 2 **1.00**
This course is a study of the application of programmable coordinate measurement machines. It utilizes a motorized, computer based machine equipped with a joystick and a motorizedtouch probe to cover probe calibration, part alignment, measurement techniques, and creation of programs. The software is PCDMIS.

623-161
Ergonomics and Workplace Safety **2.00**
Students will be able to identify, analyze, and recommend improvements to work areas to minimize the opportunity for work place injuries. They will become familiar with the ergonomic guidelines, analyze the costs and benefits of ergonomic improvements, and investigate accidents to identify possible causes or problem areas.

623-162
Equipment Justification **2.00**
Students will develop the skills to: collect data and prepare justification; assist in new equipment selection, installation, support, and monitoring; and monitor equipment's preventative maintenance program.

623-163
Introduction to Lean Manufacturing **2.00**
This course is an introduction to Lean Manufacturing principles and practices. Topics covered include: principles of lean manufacturing, value-stream mapping, 5S workplace organization, set-up reduction (SMED), cellular manufacturing, lean culture, value chain management, kanban systems, and total productive maintenance.

623-164
Process Planning **3.00**
Instruction provides the student with the skills to take a new product from the design stage to production, while meeting the product and quality specifications, and cost target requirements by determining production sequence, specifying required tools and equipment, and scheduling manpower and machinery in order to meet production dates.

623-165
Facility Planning and Material Handling **3.00**
This course will provide the student a practical means to use data to develop and improve plant and facility layouts and improve material handling methods that will yield higher production, lower costs, and/or improve quality and customer service.

623-166
Work Measurement **3.00**
The learner will develop skills in designing work stations, developing better work methods, establishing work standards, balancing assembly lines, and estimating labor costs. The time study techniques the learner will use include predetermined time standard systems, stopwatch, and work sampling.

623-171
Inspection and Testing **3.00**
This course provides the learner with the basic concepts of inspection and testing. The learner will develop a vocabulary of quality terminology as it relates to inspection and testing. This course will cover: the development of basic calibration systems and techniques, classification of characteristics, inspection planning and points, sampling techniques, inspection techniques and processes, and classification of defects.

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.

623-186
Quality Tools and Processes **3.00**
Students learn to use quality planning and problem-solving tools and processes. Data collection and analysis tools are utilized. Planning procedures covered include: advanced quality planning, FMEA,and product approval. Preventative and corrective action procedures, disposition if nonconforming material, and quality improvement activities are addressed. Quality procedures are developed.

623-187
Industrial Problem Solving **2.00**
The student will examine a variety of manufacturing scenarios posed as problems. Use of the scientific method of identifying root causes, data analysis, and solution tools is emphasized.

623-188
Manufacturing Practices **3.00**
This course examines practices that manufacturing operations use to be competitive and efficient. The course covers the principles and techniques of lean manufacturing, computer numerical control, robotics, group technology, and flexible manufacturing.

623-189
Metrology **3.00**
This course contains three units of instruction: measuring and gaging, geometric dimensioning and tolerancing, and an introduction to coordinate measuring machine setup and operation. The student may enroll in all three or in individual units. The course is conducted in a lab format and stresses development of hands-on skills.

623-191
Production Planning and Controlling **2.00**
This course is an examination of the tools and techniques that manufacturers use to plan effectively. Learners will explore how manufacturers determine their need for resources, how the availability of resources affects capacity, and how resources are allocated through the use of Gantt charts and CPM/PERT diagrams.

623-194
Quality Assurance **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.

623-195
Quality Systems **2.00**

ISO 9000 is an international quality standard that helps businesses define and document their own quality procedures for production and/or services. These standards can be used in any type of business and are accepted around the world as proof that a business can provide assured quality. In this course you will explore the concepts of quality systems, study the requirements of the ISO 9000 standard, learn how to apply it to actual organizations, and develop skills at documenting quality procedures.

623-196
Standards and Regulations **1.00**

The course provides an overview of state and federal standards that govern workplace safety. Emphasis is placed on locating standards in the Code of Regulations, applying safety and environmental standards to an actual worksite, and interpreting material safety data sheets.

623-197
Statistical Process Control **2.00**

The course introduces the basic concepts and tasks of collecting data, calculating values, constructing values, constructing control charts, and interpreting variation.

625-120
Human Side of Quality **3.00**

Habits and behaviors related to human aspects of continuous improvement provide the focus of this course. Activities allow participants the opportunity to demonstrate personal, team, and organizational practices which foster interdependence among workplace colleagues. Specific themes include self-mastery, team development, and organizational leadership for quality.

625-122
Safety in the Workplace MSSC **3.00**

Introduces you to safety and loss prevention in the workplace with an emphasis on the supervisor's responsibility for maintaining a safe, productive environment. Studies safety concepts, hazard controls, developing safety and health programs and federal & state mandated regulations.

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.

625-124
Managing for Quality Mssc **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. The class will concentrate on the specific content covered in the Manufacturing Skill Standards Council (MSSC) Quality Assurance Module and students that successfully complete the module will be awarded the nationally recognized MSSC production Technician credential.

626-100
E-Business Fundamentals **1.00**

Upon completion of this course, students will have a broad awareness of current trends in the use of internet technology as a tool for business technology.

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.

628-102
Automated Manufacturing Programming **3.00**

Function and operation of a two dimensional CAM system. Types of coding, speeds and feeds, tool selection and other applications will be studied. Typical CNC machine tool functions will be covered and programs will be created using the computer system. Students will also edit programs and download to machine tools.

628-103
Manufacturing Processes/ CNC Application **3.00**

Processes and principles related to today's manufacturing to include: milling, drilling, tapping, reaming, boring, standard machine tools as well as CNC lathes and mills. The proper useof inspection tools and CMM equipment will be studied.

628-104
Computer Aided Design and Manufacturing **3.00**

Function and operation of CAD/CAM equipment to include: computers, plotters, printers, and DNC system. Overview of CAM applications and software for computer numerical control machine tools. Pocket and profile milling, drilling, tapping, threading, and boring procedures are studied as they relate to a CAM system.

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.

628-106
Robotic Application **3.00**

This course is used to teach students how to use and program robots. Students will work hands-on creating their own projects.

628-107
Manufacturing Computer Systems 3.00
Teaches students the MAPICS system for routings, bill of materials, shop floor control, and inventory control.

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.

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.

628-109F
Mechanical Skills 4 Tech 56 Hr 2.00
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. Other topics include lubricants, bearings, seals, and gaskets.

628-109G
Mechanical Skills 4 Tech 34 Hr 3.00
This course covers the basic mechanical skills needed by a technician. The student will be able to demonstrate knowledge of chain drives, belt drives, gears, couplings, clutches and brakes.

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. Students will use CAM systems and conversational machine tool languages to verify parts.

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.

628-113
Introduction to Automation and Industry 1.00
This course is an introduction to the high tech skills needed in the manufacturing field. The course will introduce 11th and 12th grade females to computer aided drafting (CAD), physics, robots, programming, and information technology through contextual 'hands on' project based learning. The learning activities will include 36 hours of lab, guest speakers, two field trips, and developing a career plan and integrating 2 year technical programs offered by Gateway Technical College.

628-114
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 'MSSC Production Technician' certificate.

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

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.

628-500
Computer Aided Manufacturing/ Apprentice 1.00
Students will study the function and operation of CAM systems. Types of coding,

speeds and feeds, tool selection and other applications will be studied.

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 terminologyassociated 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'slaw, 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 powerare 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.

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.

701-101
Broadcasting/Introduction to **3.00**

Provides a historical look at radio, tracing its development from the earliest public broadcast services through future trends. An examination of broadcasting equipment and the theory behind its operation and use is provided.

701-105
Radio News **3.00**

The course is devoted to advanced news reporting, writing, editing and exploring various news formats used in today's radio stations. Covers news, commercials, documentaries, commentaries and editorials for both script and on-the-spot content. Attention is given to local news and public affairs.

701-110
Broadcasting and Public Policy **3.00**

Emphasizes communication ethics and law, licensing and regulation, trade unions and employment practices, freedom of the broadcast press, and invasion of privacy.

701-115
Radio Workshop I **2.00**

A basic radio course designed to acquaint students with the fundamentals of program production, analog 2 track recording, editing and microphone techniques. Students are introduced to multitrack recording equipment. Students are assigned air shifts on student radio station KBLE.

701-120
Radio Workshop II **2.00**

Introduction to analog multitrack recording techniques. Students are introduced to digital recording and editing. Concentration on dynamic oral communication skills for acceptable and effective broadcast delivery. Students continue to develop broadcast skills by working on KBLE.

701-125
Radio Workshop III **3.00**

Advanced production techniques on digital production system and use of audio processing devices for level control and special effects. Concentration on voice-over techniques for AV production.

701-130
Radio Workshop IV **4.00**

Students will intern at area radio stations in areas of interest such as programming, promotion, sales, production and announcing.

701-131
Radio Programming **3.00**

A course designed to introduce and familiarize the student with all aspects of the position of radio program director.

701-132
Radio Management **3.00**

In this course, you will study the electronic media's impact on today's society. You will examine the types of strategic alliances and partnerships found across the electronic media. Students will examine types of ethics in electronic media management. You will study three schools of management thought, personnel management, programming strategies, news and newsroom management, and the regulatory process and government's impact.

701-133
Radio Sales and Marketing 3.00
This course is a comprehensive study of sales, strategies, and techniques used to sell radio time to businesses. Local and national sales, use of rate cards, and ratings are discussed. Students create sales presentations for class. Each student will represent a radio station from any of the following markets: Milwaukee, Chicago, Racine, or Kenosha. Each student will also represent a business buying radio advertising.

701-160
Radio Copywriting Production 3.00
This is a course in writing and producing materials relevant to today's broadcasting needs including commercials, promos, features and program scripting. Logical thoughts, imagination, creativity and good taste are discussed.

701-180
Business of Broadcasting 3.00
Emphasizes the administrative area of radio broadcasting. Advanced production and direction are addressed. Provides students with detailed experience in programming, sales, management, and station policy.

701-190
Video Techniques 3.00
Introduces every phase of TV production including lighting, visual and aural effects, directing, camera operation, and set design. Involvement in basic program production and cable transmission is included.

701-192
Video Techniques II 3.00
This course will continue the basics learned in Video Techniques. Students will produce a number of broadcast quality programs, that will include a mix of studio and remote production, on non-linear editing equipment.

801-102
Technical Writing: Online Help 1.00
Integrates the conceptual, artistic, and psychological skills of designing and developing online help using RoboHelp. Emphasis is placed on the production of help systems, including designing, creating, and testing the help system.

801-103
Technical Presentations 1.00
This course prepares the student to deliver a technical presentation to both a technical and a non-technical audience. Various forms of media will be utilized in the presentations.

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 typeand 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 conceptionthrough

research, writing, illustrating, layout, approval, and production.

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.

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.

801-132
Technical Writing/ Electronic Publishing Macintosh/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 QuarkXPress on the Macintosh and/or Windows platforms. Emphasis is on the creation of production-ready page layout.

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.

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.

801-180
Communications/Newspaper Writing **3.00**
Emphasizes basic skills of newswriting including production procedures, journalistic standards, types of articles and story research. Students get practical experience by preparing article publication in the student newspaper.

801-180A
Communications/ Newspaper Writing I **1.00**
Emphasizes basic skills of newswriting including production procedures, journalistic standards, types of articles and story research. Students get practical experience by preparing an article for publication in the student newspaper.

801-180B
Communications/ Newspaper Writing II **1.00**
This course is a continuation of basic newswriting skills with increased responsibility for publication of the student newspaper.

801-180C
Communications/Newspaper Writing III **1.00**
This course teaches advanced newswriting skills, emphasizing the complete production process.

801-195
Written Communication **3.00**

This course develops writing skills that include pre-writing, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Students also develop critical reading and thinking skills through the analysis of a variety of written documents.

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.

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.

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.

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.

801-301
Writing Principles **1.00**

Reviews the fundamentals of grammar. Emphasizes practical application of English in business correspondence.

801-302
Speaking Principles **1.00**

Covers techniques of verbal and nonverbal 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**

Credit is given to students who completed their general education requirements, but did not complete a particular 801 course, through being granted up to six credits in 801-991. Studentsmust have either a transfer designation or a 'life experience' designation for any credit given. This credit is then substituted for general education coursework in the 801 area.

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.

802-111
Spanish I **3.00**

For beginning students of Spanish who wish to use Spanish as a means of oral and written communication. Students will learn the basic skills of listening, speaking, reading and writing in the language. The information gained should be helpful to various industries and service providers in communicating with Spanish-speaking Americans as in translating, speaking and writing in the ever-expanding export market and human services fields.

802-112
Spanish II **3.00**

This course continues the study of the Spanish language, using four components: listening, speaking, reading and writing. It is a progressive study, using knowledge gained at the first-semester level as a base. Survival skills in the Spanish culture will be targeted.

802-113
Chinese, Mandarin Elementary **3.00**

Elementary Mandarin is a beginning level Chinese language course, which includes pronunciation, fundamentals of grammar and syntax, reading, writing and conversation.

802-120
Conversational Spanish for Business **3.00**

This course is designed for business professionals, at a beginning Spanish level, who have the need for better communication with Spanish-speakers. Oral practice encourages active communication in Spanish. Students will learn to communicate effectively and comfortably at a basic level in Spanish.

802-121
Conversational Spanish for Business/ Intermediate **3.00**

This course is designed for business professionals at an intermediate Spanish level who have the need for better communication with Spanish-speakers. Oral practice encourages actual communication in Spanish. Students will build vocabulary and verbs while gaining confidence in speaking in Spanish.

802-122
Conversational Spanish for Business - Advanced **3.00**

This course is designed for business professionals at an advanced Spanish level who have the need for better communications with Spanish speakers. Oral practice encourages actualcommunication in Spanish. Students will learn to communicate effectively and comfortably at an advanced level in Spanish.

802-123
Spanish III **3.00**

Spanish III will continue the study of the Spanish language using four components: listening, speaking, reading, and writing. It is a progressive study, using the knowledge gained through Spanish I and Spanish II.

804-106
College Math, Introduction to **3.00**

This introductory level course is designed to review and develop fundamental concepts of arithmetic, algebra, geometry, and statistics. Emphasis will be placed on: computational skills and applications of rational numbers; problem solving skills with ratios, proportions, and percent; basic principles and application of algebra, geometry, graphing, and statistics; measurement skills in U.S. Customary and Metric Systems; and the use of calculators as a tool.

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.

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.

804-114
College Technical Math 1B **2.00**

This course includes the following topics: measurement systems; computational geometry; right and oblique triangle geometry; and trigonometric functions on the unit circle. Emphasis will be 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.

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.

804-116
College Technical Math 2 **4.00**

This course includes the following topics: vectors; trigonometric functions and their graphs; identities; exponential and logarithmic functions and equations; radical equations; equations with rationalexponents; dimensions of a circle; velocity; sine and cosine graphs; complex numbers in polar and rectangular form; trigonometric equations; conic sections; and analysis of statistical data. Emphasis will be placed on the application of skills to technical problems.

804-123
Math with Business Applications **3.00**

This course covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, and basic statistics with business/ consumer applications. Students learn to apply math concepts to the purchasing/buying and selling processes.

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.

804-149
Math for Nursing Clinical Success **1.00**

Students will receive intensive review and supplementary instruction in areas of weakness demonstrated on the TEAS assessment, including but not limited to algebraic applications, metric conversions, ratio and proportion, and data interpretation.

804-178
Statistics **3.00**

Students study statistical methodology and techniques used to describe, interpret, and evaluate statistical data in business. Topics include calculating the principal measures of central tendency and dispersion, probability relationships and distribution, sampling procedures, tests for significance of sampling inferences, correlation and regression analysis, and chi-square distribution.

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.

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.

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.

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.

804-500
Mathematics for Apprentices **1.00**

804-501
Shop Mathematics/Apprentice **0.50**

804-502
Math 1 for Apprentice **1.00**
This course will cover fractions, decimal fractions, linear measurements (English and metric).

804-503
Math 2 for Apprentice **1.00**
Basic principles of math as it applies to shop problems involving cutting speeds and feeds, screw threads, gear calculations and numerical control.

804-506
Math 4 for Apprentice **1.00**
This course will cover the geometric principles of triangles, polygons and circles. Trigonometry of right and oblique triangles as it relates to the machine trades will be covered.

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.

804-508
Geometry Apprentice **1.00**
This course will provide a foundation in the fundamentals of the application of geometry. Emphasis is placed on achieving an understanding of general geometry concepts. Each section will provide the student with the opportunity to apply geometry 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.

804-510
Trigonometry Apprenticeship **1.00**
Topics in geometry and fundamental trigonometry are studied. Areas and volumes are covered with emphasis on calculating dimensions and angles using geometric relationships and right and oblique trigonometry.

804-511
Apprenticeship Math Review **0.50**
This course will teach students to apply mathematical fundamentals. Emphasis is placed on the achieving of 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.

806-100
Topics in General Science **3.00**
This course integrates various topics from the physical and life sciences and their application to everyday life.

806-106
Medical Reporting & 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. This course emphasizes spelling, definition, and pronunciation. It is also an introduction to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems, as well as systemic and surgical terminology.

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.

806-128
Physics, Descriptive **3.00**
In this course, students learn lab procedures and solve problems relating to English and metric measurements, vectors, motion, forces, fluids, heat, expansion of solids and liquids, and electricity.

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.

806-135
Biology **3.00**
The study of the cell, its components and functions is emphasized. Other topics include physicochemical properties of living systems, organelles and their bioenergetics, macro-molecular synthesis, and code transcription.

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.

806-151
Science for Nursing Clinical Success **1.00**
Students will receive intensive review and supplementary instruction in areas of weakness demonstrated on the TEAS assessment, including but not limited to chemical science, physical science, life science, and scientific reasoning.

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.

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, neuromuscular, 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.

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.

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.

806-501
Industrial Chemistry Apprenticeship 1.00

This course is a study of the chemical and physical properties of material used in industry and commerce and the related manufacturing processes and usage. Basic concepts of matter and energy, atomic theory, laws of moving particles, water, solutions, and the family of elements, nuclear and organic chemistry related to industrial use, and a survey of minerals, ores, and metals constitute the text material. Lectures are related to industrial and commercial problems in production, distribution, safety, and pollution control.

806-502
Physics Apprenticeship 1.00

This course is a study of measurement, molecular motion, liquid pressure and Pascal's Law, force systems rectilinear motion, work power and energy, momentum, and simple machine elements. Emphasis is placed on practical application using the English Engineering system of units.

808-101
Technical Reading 1.00

This course is designed for students pursuing a degree in nursing and/or information technology. Students will learn strategies to aid them in critically comprehending and analyzing information presented in nursing and/or information technology textbooks, improve vocabulary, apply written text information to new situations, and improve recall of information.

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.

809-134
Psychology, Abnormal 3.00

Examines the history, description, etiology, treatment, and DSM classification of psychological disorders. Topics include anxiety disorders, affective disorders, dissociative disorders, somatoform disorders, psychophysiological disorders, schizophrenia, developmental disorders of childhood and aging, psychosexual disorders, substance abuse disorders, and ethical and legal issues.

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.

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.

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.

809-166
Ethics: Theory & 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.

809-172
Race, Ethnic, and Diversity Studies **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.

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.

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.

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.

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.

809-365
Social/Occupational Interaction and Skills **2.00**

Introduces the student to the skills necessary to work effectively in a changing, interdependent world with its global economy. Job exploration and career development are seen in thecontext of self development and harmoniously working with others.

809-991
Social Science General Education Credit **3.00**

Credit is given to students who completed their general education requirements, but did not complete a particular 809 course, through being granted up to six credits in 809-991. Students must have either a transfer designation or a 'life experience' designation for any credit given. This credit is then substituted for general education coursework in the 809 area.

831-103
College Writing, Intro **3.00**

Introduces basic principles of composition, including organization, development, unity, and coherence in paragraphs and multiparagraph documents.

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.

834-110
Elementary Algebra with Applications **3.0**$_0$

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.

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 waysto improve personal effectiveness.

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 & 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.

851-760
Pre-Technical Writing **2.00**

Pre-Technical Communication is designed to enable students to learn or review their basic grammar and language skills in order to deal more effectively with coursework in future vocational programs. Instruction emphasizes usage and clarity, sentence and paragraph construction, and punctuation and writing.

851-760A
Communications Skills/ Pre Technical 1CR **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**

851-769
Writing/Pre-College **2.00**

This course strengthens foundation competencies in writing. It emphasizes basic grammar, sentence structure, and paragraph development. It prepares students for the writing skills taught in Intro to College Writing.

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).

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.

854-763
Mathematics Review **1.00**

854-764
Mathematics/Pre Technical/ Sciences **2.00**

854-765
Mathematics Review for the Sciences **1.00**

854-766
Algebra Review **1.00**

854-767
Geometry 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.

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.

858-760
Pre-Technical Reading **2.00**

Pre-Technical Reading is designed to help students improve their ability to read textbooks and other printed work in vocational programs. Students are placed into the course based on Gatewayplacement test scores and counselor or teacher recommendation. The course provides basic skills instruction, including general vocabulary and comprehension practice, but it emphasizes reading/ study skill techniques necessary for success in Gateway's courses.

858-760A
Reading/Pre Technical 1 Cr **1.00**

858-763
Reading Review **1.00**

858-764
Pre Technical Reading for the Sciences **2.00**

858-765
Reading Review for the Sciences **1.00**

858-769
Pre-College Reading **2.00**

Pre-College Reading provides reading reinforcement for good readers with special emphasis on reading rate, vocabulary development, skimming, scanning, and effective comprehension.

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.

890-101
Life Work Evaluation **1.00**
Provide assistance to individuals in developing documentation required for experiential credit. Participant prepares a detailed document with appropriate validation of occupational and life experience.

890-102
Job Seeking Skills **1.00**
This course emphasizes the development of knowledge and skills necessary to obtain employment. Students will explore job seeking techniques unique to their chosen career field, as well as techniques common to all successful job seekers.

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**
Through meaningful volunteer service, students will apply principles of professionalism, team work, and critical thinking, as well as their chosen career?s technical knowledge, attitude and skill. Students will collaborate with the community, including (but not limited to) the identification of a service need, planning the service, performance of the service, and/or evaluation of the result. 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.

890-106
Serving to Learn Globally **1.00**
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.

890-155
The Gateway Experience **1.00**
This multi-session workshop is designed to give program students an overview of Gateway Student Service topics including advising, registration, the add/drop/withdrawal process. Support services, such as career services, advanced standing, finanacial aid, and student employment will be discussed. The Gateway Student Handbook will be used as the textbook/guide for the course.

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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