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| ![GATEWAY TECHNICAL COLLEGE] **Effective 2015/2016** | | **Career Cluster ►** | **Career Pathway ►** Engineering and Technology | **MECHANICAL DESIGN TECHNOLOGY (10-606-1B) – Mechatronics** *Associate of Applied Science Degree* **Most Courses Offered at Elkhorn Campus and iMET Center** | | |

| △ *Suggested Sequence* | √ | *Course Number* | | *Course Title* | *Requisites* | *Credits* | *Hrs/Wk Lec - Lab* |
|---|---|---|---|---|---|---|---|
| **Semester 1** | | 606-149 | * | Introduction to MET | Coreq: 606-128 | 2 | 1-2 |
| | | 605-113 | * | DC/AC I | | 3 | 2-2 |
| | | 606-103 | * | Material Properties | | 2 | 2-0 |
| | | 606-128 | * | CAD Solidworks | | 2 | 1-2 |
| | | 801-136 | | English Composition 1 | Prereq: 831-103 (See Note 1) | 3 | 3-0 |
| | | 804-115 | | College Technical Math 1 | Prereq: 834-110 (See Note 1) | 5 | 5-0 |
| | | | | | | | |
| **Semester 2** | | 605-114 | * | DC/AC II | Prereq: 605-113 | 3 | 2-2 |
| | | 605-130 | * | Digital Electronics | Coreq: 605-113 | 4 | 3-2 |
| | | 606-129 | * | CAD Solids / Advanced | Prereq: 606-128 | 2 | 1-2 |
| | | 606-151 | * | Statics | Prereq: 804-115 | 3 | 2-2 |
| | | 606-152 | * | Engineering Graphics w/ CAD 1 | Coreq: 606-128 | 2 | 1-2 |
| | | 806-154 | | General Physics 1 | Prereq: 804-115 | 4 | 3-2 |
| | | | | | | | |
| **Semester 3** | | 605-120 | * | Electronic Devices I | Prereq: 605-113 | 4 | 2-4 |
| | | 605-136 | * | PLC System Design | Prereq: 605-130 | 3 | 2-2 |
| | | 606-116 | * | Machine Design / Elements of | Prereq: 606-152 | 3 | 3-0 |
| | | 606-153 | * | Engineering Graphics w/ CAD 2 | Prereq: 606-152 | 2 | 1-2 |
| | | 801-198 | | Speech | Prereq: 838-105 (See Note 1) | 3 | 3-0 |
| | | | | | | | |
| **Semester 4** | | 606-102 | * | Mechanical Systems Design | Prereq: 605-130 | 3 | 2-2 |
| | | 606-138 | * | Design Problems | Prereq: Instructor Consent | 2 | 0-4 |
| | | 606-141 | * | AutoCAD – Mech Design Tech | | 3 | 2-2 |
| | | 809-196 | | Sociology, Introduction to | Prereq: 838-105 (See Note 1 & 5) | 3 | 3-0 |
| | | 809-198 | | Psychology, Introduction to | Prereq: 838-105 (See Note 1 & 5) | 3 | 3-0 |
| | | | | | | | |
| **Electives** | | *Take 6 elective credits. Any associate degree level course may be taken as an elective.* *Suggested Electives:* 606-118 Mechanisms (2 Cr)    606-154 Engineering Graphics w/ CAD 3 (2 Cr) 606-130 Introduction – SolidEdge (2 Cr)    606-160 Fluid Power and Design (3 Cr) 605-133 Industrial Data Communications (3 Cr)    606-186 Directed Study/Mechanical Design (1 Cr) 606-139 Intro – AutoCAD Inventor (2 Cr)    606-199 Internship, Mechanical Technician (1 Cr) 606-142 Introduction – Pro-E (2 Cr) | | | | *6* | |

*Minimum Program Total Credits Required*    **70**

△*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. Prepare detail and assembly drawings for documentation of mechanical components and products.
2. Create CAD geometry, parts, and assemblies.
3. Design mechanical components and products.
4. Analyze mechanical engineering problems.
5. Select purchase parts.

## CORE ABILITIES

Gateway 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, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

## GRADUATION REQUIREMENTS

1. Minimum 70 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

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

## NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days.
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).
5. Transfer credits in Social Science may substitute for this course. See an advisor 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 Web Advisor for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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To schedule an appointment with an advisor, please call 1-800-247-7122.
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 advisor is _____.      My advisor's contact information is _____.