Mechanical Design Technology (10-606-1)

Associate of Applied Science
Effective 2023/2024

The course sequence shown on this sheet is the recommended path to completion. Courses will be scheduled in the terms indicated here.
All courses should be taken in the order shown to help you stay on track and graduate according to your academic plan.
Courses in this program may be offered in a variety or combination of formats (for example: in-person, video conferencing, online, etc.).

I-D = iMET Center/days, F=Fall, S=Spring, SU=Summer

Term	Course #	Cr.	Course Title	Requisites (prereq- before/ coreq-with)	I-D
1	890-155	1	⏺ Gateway to Success (G2S)		F+
1	*606-149	2	Introduction to MET[3]	Coreq: 606-128	F
1	*606-103	2	Material Properties		F
1	*606-128	2	CAD – Solidworks[3]		F
1	*606-141	3	AutoCAD – Mech Design Tech[3]		F
1	804-115	5	🎓 College Technical Math 1[1,3]	Prereq: 834-110	F+
2	801-136	3	English Composition 1[1,3]	Prereq: 831-103 OR 831-107	S+
2	*606-142	2	Creo/Pro Engineer, Introduction to[3]		S
2	*606-151	3	🎓 Statics	Prereq: 804-115	S+
2	*606-152	2	🎓 Engineering Graphics w/ CAD1[3]	Prereq: 606-128; 606-149	S
2	*606-159	2	Manufacturing Processes	Prereq: 606-103 OR 606-136; Coreq: 801-136	S
3	*606-129	2	CAD Solids / Advanced[3]	Prereq: 606-128	SU
3	806-154	4	General Physics 1[3]	Prereq: 804-115 OR 804-197 OR 804-198	SU+
3	809-195	3	Economics[1,3]	Prereq: 838-105 OR 831-107	SU+
3	*606-137	2	Manufacturing Process Appl[2]	Prereq: 606-159	SU
4	*606-153	2	Engineering Graphics w/ CAD 2	Prereq: 606-152	F
4	*606-119	3	Motor Controls[2]		F
4	*606-131	3	Strength of Materials[2]	Prereq: 606-151	F
4	801-198	3	Speech[3]		F+
4	*606-118	2	Mechanisms	Prereq: 806-154	F
5	*606-138	2	Design Problems	Prereq: Instructor Consent; 801-136	S
5	*606-154	2	Engineering Graphics w/ CAD 3	Prereq: 606-153	S
5	*606-160	3	Fluid Power and Design[2]		S
5	*606-116	3	Machine Design / Elements of	Prereq: 606-131	S
5	809-198	3	Psychology, Introduction to[1,3]	Prereq: 838-105 OR 831-107	S+

Minimum Program Total Credits Required: 64

Notes associated with courses (identified by a superscript number at the end of the course title) are located on the back of the sheet.
⏺ Mastery of this course will put students on a path to achieve successful degree completion, on-time graduation, and enrich the college experience. Students are required to take this course in their first semester of enrollment. Please see an advisor for details.
🎓 = Milestone Course. Faculty have identified this course as providing a strong foundation for success throughout the program.
(*) indicates students must achieve a combined average of 2.0 ("C") or above for these major courses to meet graduation requirements.
(+) indicates students may take these courses at any one of the three main campuses; Kenosha, Racine, Elkhorn or Online.

Mechanical Design Technology (10-606-1)

In *Mechanical Design Technology,* comprehensive instruction is given and practical experience gained in mechanical design, drafting, and computer aided design (CAD). Extensive experience is gained with dimensioning practices, allowances, sections, drafting standards, auxiliary views, exploded views, fabrication drawings detail and assembly drawings, gears and cams, structural shapes, and intersections. Other topics covered through classroom study include practical geometry, basic fabrication methods, engineering geometry, strength of materials, engineering materials and properties, kinematics of machinery, and manufacturing processes.

Program Learning Outcomes

Graduates will be able to:

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

Essential Career Competencies

Gateway's six essential career competencies are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will develop skills in:

- Communication Competence
- Critical Thinking and Problem Solving
- Professionalism and Career Management
- Teamwork and Collaboration
- Cultural Competence
- Technology Competence

Admission Requirements

1. Students must submit an application and pay $30 fee.
2. Students must meet one of the following: minimum cumulative high school GPA of 2.6 (unweighted); earned at least 12 college credits with a minimum GPA of 2.0; or complete valid reading, writing, and math placement assessments.

Graduation Requirements

1. Minimum 64 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.
3. Complete 890-155 Gateway to Success (G2S) in the first semester.

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

Notes

1. Satisfactory college placement results (through multiple measures or placement test scores) or successful remediation is required prior to enrollment. See an advisor for details.
2. Safety glasses are required in labs. If prescription safety glasses are necessary, please allow a minimum of 90 days before the program start to obtain prescription and glasses.
3. A credit for prior learning assessment is available for this course. For more information, please contact cfpl@gtc.edu.