

Mechanical Technology: CAD Design

Degree Type

Associate in Applied Science

Type

Career

Division of STEAM

Associate Dean: Bradley Cole

Every new product, machine, vehicle, or device we enjoy today represents the work of creative mechanical designers. Those who derive satisfaction from the challenge of solving mechanical problems, making things work, and using computer technology to create new things may have a future in this exciting field. This program represents a blend of applied design theory with the most recent innovations in Computer-Aided Design (CAD), Rapid Prototyping, Computer Numerical Control and traditional industrial practices. Initial courses focus on topics common to all technical fields, including mathematics, engineering graphics, machine tools, and basic electricity. Subsequent courses become more specialized as students apply computer technology to problems related to machine design and automation.

Graduates are prepared to:

- Use of a CAD system for design, manufacture, and analysis; select materials, and design mechanical components and systems;
- Perform technician assignments involving measurements, test equipment, data recording and analysis;
- Communicate with and understand technical terminology;
- Use word processing, spreadsheet, and presentation software;
- Recognize and use project management techniques.

Should students decide to continue their education at the four-year college level, courses taken at Corning transfer to upper-division colleges granting Bachelor of Technology degrees in Mechanical Technology, Manufacturing Technology, and Manufacturing Engineering Technology.

Students must have good working knowledge of WORD (word processing) and EXCEL (spreadsheets and charts) for science and technology courses. If not already required in their program, students who lack these skills should still take TECH 1110 and TECH 1120 to make up the deficiency. Challenge exams for these courses are also available.

Program Requirements

Item #	Title	Credits
ENGL 1110	College Communication	3.0
ENGL 1020	College Composition II	3.0
	MATH 1230 and 1240, or higher	6
	Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course	3
	PHYS 1010 or higher	4
	Social Sciences or Humanities elective	3
ELEC 1010	Electricity	0.0-4
TECH 1030	Manufacturing Methods	3.0
TECH 1080	Manufacturing Methods Lab	1.0
MECH 1050	Engineering Graphics I	0.0-3
MECH 1060	Technical Mechanics	0.0-2
MECH 1550	Engineering Graphics II	0.0-3
MECH 1570	Dimensional Metrology	0.0-3
MECH 2010	Machine Design (Kinematics)	0.0-3
MECH 2050	Hydraulics and Pneumatics	0.0-3
MECH 2170	Strength of Materials	0.0-4
MECH 2210	Materials	0.0-4
CADD 1700	Computer Aided Drafting I	0.0-3
CADD 2710	Computer Aided Drafting II	0.0-3
	Technical Electives	3
Total Credits		29-64

Course Sequencing

First Semester

Intended as a guide for academic planning. It need not be followed exactly or completed in four semesters.

Item #	Title	Credits
ENGL 1110	College Communication	3.0
	MATH 1230 or higher	3
MECH 1050	Engineering Graphics I	0.0-3
TECH 1030	Manufacturing Methods	3.0
TECH 1080	Manufacturing Methods Lab	1.0
ELEC 1010	Electricity	0.0-4

Second Semester

Item #	Title	Credits
ENGL 1020	College Composition II	3.0
	MATH 1240 or higher	3
MECH 1550	Engineering Graphics II	0.0-3
PHYS 1010	Elementary Physics	0.0-4
MECH 1570	Dimensional Metrology	0.0-3

Third Semester

Item #	Title	Credits
MECH 2050	Hydraulics and Pneumatics	0.0-3
MECH 1060	Technical Mechanics	0.0-2
CADD 1700	Computer Aided Drafting I	0.0-3
MECH 2210	Materials	0.0-4
	Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course	3
	Technical Electives	3

Fourth Semester

Item #	Title	Credits
	Social Sciences or Humanities elective	3
MECH 2010	Machine Design (Kinematics)	0.0-3
MECH 2170	Strength of Materials	0.0-4
CADD 2710	Computer Aided Drafting II	0.0-3

Footnotes

*Based on placement, students might be required to take developmental and/or prerequisite classes before taking the required English and Math courses. Math 1310 does not count toward the 6 credits of math for the program.

*High school or equivalent preparation required: Two years of mathematics including algebra and either geometry or intermediate algebra.

*Technical elective: Choose from MFGT 2020 or MECH 1560. Note: both can be taken if desired and are recommended by the Technology Department.

*Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course: See General Education Requirements for courses that meet this requirement.

*ENGL 1110: Students may take ENGL 1010 and SPCH 1080 in place of ENGL 1110.