



## Mechanical Technology: CAD Design

### Associate in Applied Science Degree, Career program

Division of Math, Physics, Technology & Engineering Science, Associate Dean: Bradley Cole

Department Chair: John Longwell

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), Computer-Aided Manufacturing (CAM), automated manufacturing, and traditional industrial practice.

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. Whatever the specialty, students have ample opportunity through technical electives to pursue related areas such as advanced CAD, computer numerical control, robotics and electronics.

Graduates are prepared to use a CAD system for design, manufacture, and analysis; analyze select materials, and design mechanical components and systems; perform technician assignments involving measurements, test equipment, data recording and analysis; communicate and understand technical terminology; use word processing, spreadsheet, and presentation software; and 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 Science degrees in Mechanical Technology, Manufacturing Technology, and Manufacturing Engineering Technology.

For program assistance, see an advisor.

*High school or equivalent preparation required: Two years of mathematics including algebra and either geometry or intermediate algebra. Students who don't have this preparation will be able to get it here, but it may take longer to complete the program.*

#### Program Requirements

English (ENGL 1010 and 1020 or 1030. By placement)* .....	6	Technical Concentration (ELEC 1010; TECH 1030, 1080;	
Mathematics (MATH 1230-1240 or higher)* .....	6	MECH 1050, 1060, 1550, 1560, 1570, 2010, 2050,	
Social Sciences electives .....	6	2170, 2210; MFGT 2020; CADD 1700, 2710) .....	45
Physics (PHYS 1010) .....	4	Wellness .....	2
		Total hours .....	69

\*Based on placement, students may be required to take ENGL 0950 and/or ENGL 0990 before taking ENGL 1010, and MATH 0960 before taking a math credit course.

Students should take the Orientation to Technology (TECH 1050) course [offered before the semester begins] where their computer skills will be assessed. It may be possible to get credit for TECH 1110, 1120, 1130 via this assessment. If students do not pass sections of the computer assessment, they may be required to take TECH 1110, 1120 or 1130 to make up the deficiency.

*Sample Sequence: intended as a guide for academic planning. It need not be followed exactly or completed in four semesters.*

#### First Semester

English .....	3
Mathematics (MATH 1230 or higher) .....	3
Engineering Graphics I (MECH 1050) .....	3
Manufacturing Methods (TECH 1030) .....	3
Manufacturing Methods Lab (TECH 1080) .....	1
Electricity (ELEC 1010) .....	4
Wellness (Awareness/Instructional Component) .....	1

#### Third Semester

Social Sciences elective .....	3
Hydraulics and Pneumatics (MECH 2050) .....	3
Technical Mechanics (MECH 1060) .....	2
Computer Aided Drafting I (CADD 1700) .....	3
Materials (MECH 2210) .....	4
Quality Management (MFGT 2020) .....	3
Wellness (Activity Component) .....	0.5

#### Second Semester

English .....	3
Mathematics (MATH 1240 or higher) .....	3
Engineering Graphics II (MECH 1550) .....	3
CNC Programming (MECH 1560) .....	3
Physics (PHYS 1010) .....	4
Wellness (Activity Component) .....	0.5

#### Fourth Semester

Social Sciences elective .....	3
Machine Design (MECH 2010) .....	3
Strength of Materials (MECH 2170) .....	4
Computer Aided Drafting II (CADD 2710) .....	3
Dimensional Metrology (MECH 1570) .....	3