

COMPUTER AIDED DESIGN/DRAFTING (CAD)

Credentials

CAD: Drafting-Technical certificate	28 cr.
CAD: Mechanical AAS degree	65 cr.

Major Description

Computer-aided design (CAD) is the use of computer systems to assist in the creation, modification, analysis, or optimization of a design. Schoolcraft College offers both a CAD drafting-technical certificate and a CAD mechanical associate degree.

- Our CAD mechanical program results in an associate in applied science degree which focuses on design and project management.
- The CAD drafting technical certificate will prepare you for employment as a CAD drafter or detailer. You may transfer into the CAD associate degree program at any time.

Job Titles & Median Salaries or Hourly Rates

- Mechanical Designer: \$50,110 (national)
- Tool Designer: \$58,032 (national)
- Technical Drafter: \$47,880 (national)

CAD: Mechanical AAS Degree

Technology improvements have moved the world of design from the drafting arena to the data management and design world. The designer now must produce multiple design proposals through a process which includes modeling, simulation, performance analysis and free form fabrication. Product life cycle management concepts are ingrained into this program addressing the management of all data related to the design, production and support of manufactured goods.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete all college and program requirements qualify for an associate in applied science degree.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

CAD 103	Engineering Graphics.....	3
ENGR 100	Introduction to Engineering and Technology...	3
MET 102	Introduction to Materials Science.....	3
MATH 113**	Intermediate Algebra for College Students.....	4
HUM 106*	Introduction to Art and Music	1

Total Credits 14

First Year—Winter Semester

MET 114	Engineering Materials.....	3
CAD 106	Advanced Drawing Views and Descriptive Geometry	4
MFG 105	Manufacturing Processes	4
Elective	Select 1	4
CAD 211	CATIA—Level 1	
CAD 221	SolidWorks—Level 1	

Total Credits 15

First Year—Spring/Summer Session

MATH 119	Trigonometry.....	3
ENG 100*	Communication Skills.....	3

Total Credits 6

Second Year—Fall Semester

DSGN 180	Machine Elements and Design.....	4
ENG 106*	Business English	3
MFG 102	Basic Machining Processes	3
CAD 107	Detailing.....	4

Total Credits 14

Second Year—Winter Semester

DSGN 250	Tool, Die, and Fixture Design	4
DSGN 280	Capstone Project.....	4
PHYS 123	Applied Physics.....	5
PSYCH 153*	Human Relations.....	3

Total Credits 16

PROGRAM TOTAL 65 CREDITS

* Other courses meeting the college requirements may be substituted.

** MATH 113 may be waived if student has successfully completed high school Algebra II or based on student's placement test score.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with a counselor or advisor. Number of credits may vary depending on the course selection.

CAD: Drafting-Technical Certificate

Skills developed in these courses prepare the student for employment as a CAD drafter or detailer. Students at any time may transfer into the computer aided design associate degree program.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete the program requirements qualify for a certificate of program completion.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

CAD 103	Engineering Graphics.....	3
MET 102	Introduction to Materials Science.....	3
MFG 102	Basic Machining Processes.....	3
MATH 113*	Intermediate Algebra for College Students.....	4

Total Credits 13

First Year—Winter Semester

CAD 106	Advanced Drawing Views and Descriptive Geometry	4
MATH 119	Trigonometry.....	3
MFG 105	Manufacturing Processes.....	4
Elective	Select 1	4
CAD 211	CATIA—Level 1	
CAD 221	SolidWorks—Level 1	

Total Credits 15

PROGRAM TOTAL 28 CREDITS

* *MATH 113 may be waived if student has successfully completed high school Algebra II or based on student's placement test score.*