

# PRIDE. CHALLENGE. ACHIEVEMENT.

CREDENTIAL YEAR 2017-18

## COMPUTER AIDED DESIGN/DRAFTING (CAD)

### Credentials

CAD: Drafting-Technical Certificate	28 cr.
CAD: Mechanical AAS Degree	65 – 70 cr.

### Major Description

Computer-aided design (CAD) has changed the world of design and the use of computer systems to assist in the creation, modification, analysis or optimization of designs has become the norm. Schoolcraft offers two CAD educational options for students who want to pursue a career in this area:

- The CAD mechanical associate in applied science degree program focuses on design and project management.
- The CAD drafting technical certificate prepares students for employment as a CAD drafter or detailer. Students can also transfer into the associate in applied science degree program at any time.

### National Median Salaries for Computer Aided Design/Drafting (CAD)-related positions (source: US BLS)

Mechanical Designer: \$50,360

Tool Designer: \$51,720

Technical Drafter: \$49,630

### CAD: Drafting-Technical Certificate

Schoolcraft program code # 1YC.00119

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

#### First Year—Winter Semester

CAD 103	Engineering Graphics	3	CAD 106	Advanced Drawing Views and Descriptive Geometry	4
MET 103	Introduction to Materials Science	3	MATH 119	Trigonometry	3
MFG 102	Basic Machining Processes	3	MFG 105	Manufacturing Processes	4
MATH 113*	Intermediate Algebra for College Students	4	Elective	Select one	4
	<b>Total Credits</b>	<b>13</b>	CAD 211	CATIA—Level 1	
			CAD 221	SolidWorks—Level 1	
				<b>Total Credits</b>	<b>15</b>

### 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.



It is the policy of Schoolcraft College that no person shall, on the basis of race, religion, color, gender, age, marital status, disability, sexual orientation, and/or national origin, be subjected to discrimination during or be excluded from participating in or be denied the benefits of any program or activity or in employment.



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## CAD: Mechanical AAS Degree

Schoolcraft program code # AAS.00170

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

#### First Year—Winter Semester

CAD 103	Engineering Graphics	3	CAD 106	Advanced Drawing Views and Descriptive Geometry	4
ENGR 100	Introduction to Engineering and Technology	3	MFG 105	Manufacturing Processes	4
MET 103	Introduction to Materials Science	3	CAD 211	CATIA – Level 1	4
MATH 113*	Intermediate Algebra for College Students	4	CAD 221	SolidWorks – Level 1	4
Humanities	<i>Select General Education Humanities course(s)</i>	1-4		<b>Total Credits</b>	<b>16</b>
COMA 103	Fundamentals of Speech (recommended)				
	<b>Total Credits</b>	<b>14-17</b>			

#### First Year—Spring/Summer Session

MATH 119	Trigonometry	3
English	<i>Select one</i>	3
ENG 100	Communication Skills	
ENG 101	English Composition 1	
	<b>Total Credits</b>	<b>6</b>

#### Second Year—Fall Semester

#### Second Year—Winter Semester

DSGN 180	Machine Elements and Design	4	DSGN 250	Tool, Die, and Fixture Design	4
ENG 116	Technical Writing	3	Elective	<i>Select one</i>	3-4
MFG 102	Basic Machining Processes	3	DSGN 280	Capstone Project	
CAD 107	Detailing	4	CAD 290	Computer Aided Design Internship	
	<b>Total Credits</b>	14	PHYS 123	Applied Physics	5
			Social Science	Select General Education Social Science course(s)	3-4
			PSYCH 153	Human Relations (recommended)	
				<b>Total Credits</b>	<b>15-17</b>

### PROGRAM TOTAL 65-70 CREDITS

\*\*\* 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.