



# Discover

## Schoolcraft College

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### Computer Aided Design/Drafting

The ability to visualize and sketch out an object in three dimensions. Some people have a gift for it, and make a comfortable living from it, in the field of Computer Aided Design/Drafting. Could you be one of those people?

Our certificate program in drafting requires just one year of study. Got another year to spare? Then transfer into our associate degree program for a more in-depth education in mechanical design.

Schoolcraft also offers Computer Assisted Manufacturing. See our catalog or website for details.

### FREQUENTLY ASKED QUESTIONS

#### What Do DESIGNERS/DRAFTERS Do?

Mechanical Designers render the CAD models and drawings that define the size, shape, and function of a product. They also are responsible for assuring that products will meet market needs, be manufactured in a cost-efficient manner, and prove to be reliable and serviceable. Technical Drafters create the CAD models and drawings for either the products a company might sell or the machines used to create the products.

#### What Characteristics Do I Need To Work In This Field?

You need to be computer literate, able to visualize objects in three dimensions, and do detailed work accurately and neatly. You should also have good interpersonal skills to enable you to work closely with engineers and other members of a design team.

#### Where Could I Find a Job?

You'd likely be employed by an engineering services firm, in transportation or in durable-goods manufacturing industries such as machinery, electrical equipment, and fabricated metals.

#### What Is My Employment Outlook?

Employment opportunities for Tool Designers and Technical Drafters are expected to grow slower than the average for all occupations through the year 2020. Opportunities for Mechanical Designers are expected to grow as fast as the average.

#### Related Websites

American Design Drafting Association: [www.adda.org](http://www.adda.org)

CAD Forum: [www.cad-forum.com](http://www.cad-forum.com)

CAD Society: [www.cadsociety.org](http://www.cadsociety.org)

American Society of Mechanical Engineers: [www.asme.org](http://www.asme.org)

Society of Manufacturing Engineers: [www.sme.org](http://www.sme.org)

#### For More Information

Visit [www.schoolcraft.edu](http://www.schoolcraft.edu) where you can view course and program information, schedule a campus tour, apply for admission, register for courses, and request more information.

Contact the Admissions and Enrollment Center at 734-462-4426 with additional questions.

### employment

#### JOB TITLES & MEDIAN SALARIES OR HOURLY RATES

**Mechanical Designer**  
\$58,032 (Michigan)

**Tool Designer**  
\$61,048 (Michigan)

**Technical Drafter**  
\$37,443 (Michigan)

# discover COMPUTER AIDED DESIGN/DRAFTING

## Program Requirements — 2012–2013 CATALOG

### CAD—MECHANICAL ASSOCIATE 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 the Counseling Center to set up a schedule that will work for them. Students who satisfactorily complete all College 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
		<b>14</b>
	<b>Winter Semester</b>	
MET 114	Engineering Materials	3
CAD 106	Advanced Drawing Views and Descriptive Geometry	4
MFG 105	Manufacturing Processes	4
Elective	Select I	4
CAD 211	CATIA—Level I	
CAD 221	SolidWorks—Level I	
		<b>15</b>
	<b>Spring/Summer Session</b>	
MATH 119	Trigonometry	3
ENG 100*	Communication Skills	3
		<b>6</b>

#### 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
		<b>14</b>

#### 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
		<b>16</b>

**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

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 the Counseling Center to set up a schedule that will work for them. Students who satisfactorily complete the Program Courses 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
		<b>13</b>
	<b>Winter Semester</b>	
CAD 106	Advanced Drawing Views and Descriptive Geometry	4
MATH 119	Trigonometry	3
MFG 105	Manufacturing Processes	4
Elective	Select I	4
CAD 211	CATIA—Level I	
CAD 221	SolidWorks—Level I	
		<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.

Go to [www.schoolcraft.edu/academicprograms](http://www.schoolcraft.edu/academicprograms) to see the **Gainful Employment Disclosure which includes additional information about this program, such as program costs, student graduation rates, and the median debt of students who complete the program.**

**Virtually any program at Schoolcraft College can be a transfer program if you plan to continue at a four-year institution to earn a bachelor's degree in your major. Visit [www.schoolcraft.edu/transfer](http://www.schoolcraft.edu/transfer) for information about transfer options. To ensure that the Schoolcraft courses you select are the specific ones required by the four-year college of your choice, be sure to consult regularly with your counselor/advisor.**



**Schoolcraft  
College**

18600 Haggerty Road  
Livonia, MI 48152-2696

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

PROGRAM INFORMATION UPDATED 4-12