



# discover MANUFACTURING

## Program Requirements 2012-2013 CATALOG

### ADVANCED MANUFACTURING ASSOCIATE DEGREE Schoolcraft program code # AAS.00135

The Advanced Manufacturing Program is designed to provide learners with growth and development in a variety of manufacturing processes, to expose them to materials and methods of production and make them aware of quality systems and tools. While this program offers an entry-level certification for individuals pursuing a career in manufacturing, it has been designed to enable individuals the opportunity to continually expand and upgrade their applied skills as well as to maintain a thorough mastery of evolving manufacturing technologies.

Protective shop clothing and eye protection supplies required for the program will be purchased by the student.

All courses are not offered each semester. Students should work with the Counseling Department 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	
MFG 102	Basic Machining Processes	.....	3
MFG 105	Manufacturing Processes	.....	4
ENG 100*	Communication Skills	.....	3
MATH 113	Intermediate Algebra for College Students	.....	4
MET 102	Introduction to Materials Science	.....	3
			<b>17</b>
		Winter Semester	
MFG 103	Basic Computer Numerical Control (CNC)	.....	3
MFG 106	Basic Mastercam	.....	3
ENG 106*	Business English	.....	3
MET 114	Engineering Materials	.....	3
ENGR 100	Introduction to Engineering and Technology	.....	3
			<b>15</b>
		Spring Session	
CAD 103	Engineering Graphics	.....	3
CHEM 111*	General Chemistry I	.....	4
			<b>7</b>

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.

#### SECOND YEAR Fall Semester

MFG 203	Advanced Computer Numerical Control (CNC)	... 3
MFG 206	Advanced Mastercam	... 3
SOC 201*	Principles of Sociology	... 3
HUM 106*	Introduction to Art and Music	... 1
		<b>10</b>

#### Winter Semester

MFG 211	3D Computer Numerical Control (CNC) Machining	... 3
QM 107	Quality Planning and Team Building	... 3
WELD 110	Introduction to Welding for Fabrication Basics	... 3
Electives**	Select from the list below	... 3-4
		<b>12-13</b>

#### PROGRAM TOTAL 61-62 CREDITS

\* Other courses meeting the College requirements may be substituted.

\*\* Number of credits may vary depending on the course selection.

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.

#### ELECTIVES

BUS 103	Organizing a Small Business	... 3
CAD 106	Advanced Drawing Views and Descriptive Geometry	... 4
ELECT 251	Programmable Logic and Industrial Controls	... 4
WELD 115	Gas Metallic Arc Welding (G.M.A.W./M.I.G.)	... 3
WELD 119	Gas Tungsten Inert Arc Welding (G.T.A.W./T.I.G.)	... 3
WELD 112	Contemporary Metal Sculpture I	... 3





## ADVANCED MANUFACTURING CERTIFICATE

Schoolcraft program code # 1YC.00237

The Advanced Manufacturing Certificate addresses basic competency in skills needed for employment in today's highly technical manufacturing environments. The certificate is designed to train those new to manufacturing, but also serves to update the skills of seasoned manufacturing workers with the most current technology and techniques. These classes all apply to the Advanced Manufacturing Associate Degree.

Protective shop clothing and eye protection supplies required for the program will be purchased by the student.

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 successfully complete all College Requirements qualify for a Certificate of Program completion.

### SAMPLE SCHEDULE OF COURSES

FIRST YEAR	Fall Semester	
MET 102	Introduction to Materials Science . . . . .	3
MFG 102	Basic Machining Processes . . . . .	3
CAD 103	Engineering Graphics . . . . .	3
WELD 115	Gas Metallic Arc Welding (G.M.A.W./M.I.G.) . . . . .	3
		<b>12</b>
	<b>Winter Semester</b>	
MFG 103	Basic Computer Numerical Control (CNC) . . . . .	3
MFG 106	Basic Mastercam . . . . .	3
QM 107	Quality Planning and Team Building . . . . .	3
WELD 119	Gas Tungsten Inert Arc Welding (G.T.A.W./T.I.G.) . . . . .	3
		<b>12</b>
	<b>Spring Session</b>	
MFG 203	Advanced Computer Numerical Control (CNC) . . . . .	3
MFG 206	Advanced Mastercam . . . . .	3
		<b>6</b>

**PROGRAM TOTAL 30 CREDITS**

## ADVANCED MANUFACTURING SKILLS CERTIFICATE

Schoolcraft program code # CRT.00337

The Advanced Manufacturing Skills Certificate introduces learners to advanced skills and techniques in manufacturing. It provides the basic skills needed for employment in today's highly technical manufacturing environments. These classes all apply to the Advanced Manufacturing Associate Degree.

Protective shop clothing and eye protection supplies required for the program will be purchased by the student.

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 successfully complete the Program Courses qualify for a Certificate of Program completion.

### SAMPLE SCHEDULE OF COURSES

FIRST YEAR	Fall Semester	
MET 102	Introduction to Materials Science . . . . .	3
MFG 102	Basic Machining Processes . . . . .	3
WELD 110	Introduction to Welding Basics for Fabrication . . . . .	3
		<b>9</b>
	<b>Winter Semester</b>	
MFG 103	Basic Computer Numerical Control (CNC) . . . . .	3
MFG 106	Basic Mastercam . . . . .	3
QM 107	Quality Planning and Team Building . . . . .	3
		<b>9</b>

**PROGRAM TOTAL 18 CREDITS**



