

## PLASTIC TECHNOLOGY

**Credentials**

Plastic Technology Skills Certificate	16 cr.
Plastic Technology Certificate	30-32 cr.
Plastic Technology AAS degree	60-66 cr.

**Major Description**

Developed in conjunction with the area's leading plastic manufacturing companies, the Plastic Technology programs prepare students for employment in one of the largest manufacturing fields in the country. Plastic Technology courses in this program are taught by professionals in the industry, providing real-world experience so that students can acquire the working knowledge and skills to become a competent molding machine operator or technician. Students will learn techniques and processes involved in making and testing plastic parts as they gain hands-on experience with plastics manufacturing equipment.

### Plastic Technology Skills Certificate

Schoolcraft program code # CRT.00340

The Plastic Technology skills certificate introduces the student to the various processing techniques used to produce a finished plastic part. The student will also come away with knowledge of the different plastic materials most commonly used today. The program also includes an overview of the various quality improvement programs with an emphasis on teamwork and an overview of metal machining. This program will provide the student with the basic skills for employment at the entry level in the plastics industry. Protective shop clothing and eye protection supplies required for the program will be purchased by the student.

Students who satisfactorily complete the program requirements qualify for a certificate of program completion. All program required courses must be completed with a grade of 2.0 or better.

**SAMPLE SCHEDULE OF COURSES**
**First Year—Fall Semester**
**First Year—Winter Semester**

PLAST 130	Introduction to Plastic Materials	3	PLAST 131	Introduction to Plastic Processing	3
MATH 102	Technical Mathematics	4	MFG 102	Basic Machining Processes	3
	<b>Total Credits</b>	<b>7</b>	QM 107	Quality Planning & Team Building	3
				<b>Total Credits</b>	<b>9</b>

**PROGRAM TOTAL 16 CREDITS**

Not all courses are offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them.

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

### Plastic Technology Certificate

Schoolcraft program code # 1YC.00219

The Plastic Technology certificate addresses the basic competencies and skills needed to meet the requirements for employment in the plastics industry. The program content is designed to train the student who is new to the plastics industry, and also to update the skills of seasoned workers in the plastic industry, with the most current technology. The curriculum will prepare the student to be employed in a quality or testing lab, as a production technician, or entry level process technician.

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

Students who satisfactorily complete the program requirements qualify for a certificate of program completion. All program required courses must be completed with a grade of 2.0 or better.

**SAMPLE SCHEDULE OF COURSES**
**First Year—Fall Semester**
**First Year—Winter Semester**

PLAST 130	Introduction to Plastic Materials	3	MFG 102	Basic Machining Processes	3
MATH 102	Technical Mathematics	4	PLAST 140	Plastic Materials Testing	3
QM 107	Quality Planning & Team Building	3	PLAST 150	Plastic Injection Molding Technology	3
PLAST 131	Introduction to Plastic Processing	3	CAD 103	Engineering Graphics	3
	<b>Total Credits</b>	<b>13</b>		<b>Total Credits</b>	<b>12</b>

**First Year—Spring/Summer Session**

PLAST 160	Process Control Systems for Plastic Manufacturing	3
Elective	<i>Select one from list below</i>	2-4
	<b>Total Credits</b>	<b>5-7</b>

**PROGRAM TOTAL 30-32 CREDITS**
**Electives**

CAD 211	CATIA – Level 1	4	MFG 103	Basic Computer Numerical Control	3
CAD 221	SolidWorks – Level 1	4	MFG 105	Manufacturing Processes	4
MET 160	Composite Materials	3	MFG 110	Geometric Dimensioning & Tolerancing with Inspection	3
MET 290	Metallurgy Internship	3	OSH 111	Occupational Safety & Health for General Industry	2

## Plastic Technology Certificate (continued)

Not all courses are offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them.

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

### Plastic Technology AAS Degree

Schoolcraft program code # AAS.00220

The Plastic Technology AAS degree is designed to provide the student with skills in many of the critical facets of plastic manufacturing. The program includes the study of the most widely used thermoplastic processes with an emphasis on injection molding and on the most frequently used thermoplastic materials. Topics covered include: thermoplastic process troubleshooting, plastic materials and applications, mold/part design, quality improvement programs, process controls, CAD and metal finishing. The combined educational background will give the student an opportunity to meet the many needs of today's plastic manufacturing industry. This includes employment as a mold or part designer, process technician or entry level plastic process engineer.

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

Students who satisfactorily complete the program requirements qualify for an associate in applied science degree. All program required courses must be completed with a grade of 2.0 or better.

#### SAMPLE SCHEDULE OF COURSES

##### First Year—Fall Semester

PLAST 130	Introduction to Plastic Materials	3
MATH 102	Technical Mathematics	4
QM 107	Quality Planning & Team Building	3
PLAST 131	Introduction to Plastic Processing	3
<b>Total Credits</b>		<b>13</b>

##### First Year—Winter Semester

MFG 102	Basic Machining Processes	3
PLAST 140	Plastic Materials Testing	3
PLAST 150	Plastic Injection Molding Technology	3
CAD 103	Engineering Graphics	3
<b>Total Credits</b>		<b>12</b>

##### First Year—Spring/summer Session

PLAST 160	Process Control Systems for Plastic Manufacturing	3
ENG 100	Communication Skills	3
<b>Total Credits</b>		<b>6</b>

##### Second Year—Fall Semester

PLAST 210	Plastic Mold Design Fundamentals	3
PLAST 220	Plastic Part Design	3
ENG 116	Technical Writing	3
CHEM 104	Fundamentals of Chemistry	4
Elective	<i>Select one from list below</i>	2-4
<b>Total Credits</b>		<b>15-17</b>

##### Second Year Year—Winter Semester

PLAST 240	Advanced Plastic Processing	3
PLAST 250	Advanced Injection Molding	3
Social Science	<i>Select General Education Social Science course</i>	3-4
PSYCH 153	Human Relations ( <i>recommended</i> )	
Humanities	<i>Select General Education Humanities course</i>	2-4
COMA 103	Fundamentals of Speech ( <i>recommended</i> )	
Elective	<i>Select one from list below</i>	3-4
<b>Total Credits</b>		<b>14-18</b>

#### PROGRAM TOTAL 60-66CREDITS

##### Electives

Select two courses from the classes listed below to fulfill the elective requirement:

CAD 211	CATIA - Level 1	4	MFG 103	Basic Computer Numerical Control	3
CAD 212	CATIA - Surfacing	4	MFG 105	Manufacturing Processes	4
CAD 221	SolidWorks - Level 1	4	MFG 110	Geometric Dimensioning & Tolerancing with Inspection	3
MET 160	Composite Materials	3	OSH 111	Occupational Safety & Health for General Industry	2
MET 281	Special Problems in Materials Science	3	WELD 110	Introduction to Welding Basics for fabrication	3
MET 290	Metallurgy Internship	3	WELD 118	Adhesive Joining Technology	4

Not all courses are offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them.

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

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