

Welcome to Schoolcraft.

CREENTIAL YEAR 2020–2021

Plastic Technology

Credentials

| | |
|---------------------------------------|-----------|
| Plastic Technology Skills Certificate | 16 cr. |
| Plastic Technology Certificate | 30-32 cr. |
| Plastic Technology AAS degree | 61-66 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 process 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 College Program # 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.

Not all courses are offered each semester. Students should work with an academic advisor 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. Number of credits may vary depending on the course selection.

SAMPLE SCHEDULE OF COURSES

First Year - Fall Semester

| Course # | Course Title | Credits |
|-----------|---|---------|
| PLAST 130 | Introduction to Plastic Materials | 3 |
| QM 106 | Introduction to Quality Improvement Tools | 3 |
| | Total Credits: 6 | |

First Year - Winter Semester

| Course # | Course Title | Credits |
|-----------|------------------------------------|---------|
| PLAST 131 | Introduction to Plastic Processing | 3 |
| MFG 102 | Basic Machining Processes | 3 |
| MATH 102 | Technical Mathematics | 4 |
| | Total Credits: 10 | |

PROGRAM TOTAL 16 CREDITS

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.

Not all courses are offered each semester. Students should work with an academic advisor 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. Number of credits may vary depending on the course selection.

SAMPLE SCHEDULE OF CLASSES

First Year - Fall Semester

| Course # | Course Title | Credits |
|-----------|---|---------|
| PLAST 130 | Introduction to Plastic Materials | 3 |
| MATH 102 | Technical Mathematics | 4 |
| QM 106 | Introduction to Quality Improvement Tools | 3 |
| PLAST 131 | Introduction to Plastic Processing | 3 |
| CAD 120 | Mechanical Blueprint Reading with Sketching | 3 |
| | Total Credits: 16 | |

First Year - Winter Semester

| Course # | Course Title | Credits |
|-----------|---|---------|
| MFG 102 | Basic Machining Processes | 3 |
| PLAST 140 | Plastic Materials Testing | 3 |
| PLAST 150 | Plastic Injection Molding Technology | 3 |
| PLAST 160 | Process Control Systems for Plastic Manufacturing | 3 |
| Elective | Select one from list below | 2-4 |
| | Total Credits: 14-16 | |

Plastic Technology Certificate (continued)

Electives

| Course # | Course Title | Credits |
|-----------------|--|----------------|
| CAD 130 | Geometric Dimensioning and Tolerance | 3 |
| CAD 210 | CATIA - 3D and 2D Applications | 4 |
| CAD 220 | SolidWorks - 3D and 2D Applications | 4 |
| CAD 230 | NX – 3D and 2D Applications | 4 |
| CIS 120 | Software Applications | 3 |
| MET 160 | Composite Materials | 3 |
| PLAST 291 | Plastic Technology Internship | 3 |
| MFG 103 | Basic Computer Numerical Control (CNC) | 3 |
| MFG 105 | Manufacturing Processes | 4 |
| OSH 111 | Occupational Safety and Health for General Industry | 2 |

PROGRAM TOTAL 30-32 CREDITS

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.

Not all courses are offered each semester. Students should work with an academic advisor 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. Number of credits may vary depending on the course selection.

SAMPLE SCHEDULE OF CLASSES

First Year – Fall Semester

| Course # | Course Title | Credits |
|-----------|---|---------|
| PLAST 130 | Introduction to Plastic Materials | 3 |
| MATH 102 | Technical Mathematics | 4 |
| QM 106 | Introduction to Quality Improvement Tools | 3 |
| PLAST 131 | Introduction to Plastic Processing | 3 |
| | Total Credits: 13 | |

First Year – Winter Semester

| Course # | Course Title | Credits |
|-----------|---|---------|
| MFG 102 | Basic Machining Processes | 3 |
| PLAST 140 | Plastic Materials Testing | 3 |
| PLAST 150 | Plastic Injection Molding Technology | 3 |
| CAD 120 | Mechanical Blueprint Reading with Sketching | 3 |
| | Total Credits: 12 | |

First Year – Spring/Summer Session

| Course # | Course Title | Credits |
|----------------|--|---------|
| Social Science | Select General Education Social Science course | 3-4 |
| Recommended: | PSYCH 153 Human Relations | |
| ENG 100 | Communication Skills | 3 |
| | Total Credits: 6-7 | |

**Plastic Technology AAS Degree (continued)
Second Year – Fall Semester**

| Course # | Course Title | Credits |
|-----------------|-----------------------------|----------------|
| PLAST 251 | Applied Injection Molding | 3 |
| PLAST 220 | Plastic Part Design | 3 |
| ENG 116 | Technical Writing | 3 |
| CHEM 104 | Fundamentals of Chemistry | 4 |
| Elective | Select one from list below | 2-4 |
| | Total Credits: 15-17 | |

Second Year – Winter Semester

| Course # | Course Title | Credits |
|-----------------|---|----------------|
| PLAST 240 | Advanced Plastic Processing | 3 |
| PLAST 210 | Plastic Mold Design Fundamentals | 3 |
| PLAST 160 | Process Control Systems for Plastic Manufacturing | 3 |
| Humanities | Select General Education Humanities course | 3-4 |
| Recommended: | COMA 103 Fundamentals of Speech | |
| Elective | Select one from list below | 3-4 |
| | Total Credits: 15-17 | |

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

| Course # | Course Title | Credits |
|-----------------|---|----------------|
| CAD 130 | Geometric Dimensioning and Tolerance | 3 |
| CAD 210 | CATIA – 3D and 2D Applications | 4 |
| CAD 212 | CATIA – Surfacing | 4 |
| CAD 220 | SolidWorks – 3D and 2D Applications | 4 |
| CAD 230 | NX – 3D and 2D Applications | 4 |
| CIS 120 | Software Applications | 3 |
| MET 160 | Composite Materials | 3 |
| MET 281 | Special Problems in Materials Science | 3 |
| PLAST 291 | Plastic Technology Internship | 3 |
| MFG 103 | Basic Computer Numerical Control (CNC) | 3 |
| MFG 105 | Manufacturing Processes | 4 |
| OSH 111 | Occupational Safety and Health for General Industry | 2 |
| WELD 110 | Introduction to Welding Basics for Fabrication | 3 |
| WELD 118 | Adhesive Joining Technology | 4 |

PROGRAM TOTAL 61-66 CREDITS