CREDENTIAL YEAR 2017-18

# 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.

**National Median Salaries for Plastic Technology-related positions:**

Plastic Technicians: $16.13 per hour *(source: US BLS)*

## 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.

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. 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 |
| | **Total Credits** | **7** | QM 107 | Quality Planning and Team Building | 3 |
| | | | | **Total Credits** | **9** |
| | | | | | |

**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.

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. All program required courses must be completed with a grade of 2.0 or better.

**SAMPLE SCHEDULE OF CLASSES**

| 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 Testin | 3 |
| QM 107 | Quality Planning and Team Building | 3 | PLAST 150 | Plastic Injection Molding Technology | 3 |
| PLAST 131 | Introduction to Plastic Processing | 3 | CAD 103 | Engineering Graphics | 3 |
| | **Total Credits** | **13** | | **Total Credits** | **12** |

**First Year—Spring/Summer Session**

| | | |
|---|---|---|
| PLAST 160 | Process Control Systems for Plastic Manufacturing | 3 |
| Elective | *Select one* | 2-4 |
| | **Total Credits** | **5-7** |

**PROGRAM TOTAL 30-32 CREDITS**

**Electives**

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

## 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.

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 an associate in applied science degree . All program required courses must be completed with a grade of 2.0 or better.

**SAMPLE SCHEDULE OF CLASSES**

| 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 and Team Building | 3 | PLAST 150 | Plastic Injection Molding Technology | 3 |
| PLAST 131 | Introduction to Plastic Processing | 3 | CAD 103 | Engineering Graphics | 3 |
| | **Total Credits** | **13** | | **Total Credits** | **12** |

**First Year—Spring/Summer Session**

| | | |
|---|---|---|
| PLAST 160 | Process Control Systems for Plastic Manufacturing | 3 |
| ENG 100 | Communication Skills | 3 |
| | **Total Credits** | **6** |

| **Second Year—Fall Semester** | | | | **Second Year—Winter Semester** | |
|---|---|---|---|---|---|
| PLAST 210 | Plastic Mold Design Fundamentals | 3 | PLAST 240 | Advanced Plastics Processing | 3 |
| PLAST 220 | Plastic Part Design | 4 | PLAST 250 | Advanced Injection Molding | 3 |
| ENG 116 | Technical Writing | **3** | Social Science | *Select General Education Social Science course(s)* | 3-4 |
| CHEM 104 | Fundamentals of Chemistry | 4 | PSYCH 153 | Human Relations *(recommended)* | |
| Elective | *Select one from list below* | 2-4 | Humanities | *Select General Education Humanities course(s)* | 2-4 |
| | **Total Credits** | **15-17** | COMA 103 | Fundamentals of Speech *(recommended)* | |
| | | | Elective | *Select one from list below* | 3-4 |
| | | | | **Total Credits** | **14-18** |

**PROGRAM TOTAL 60-66 CREDITS**

**Electives**

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

| | | |
|---|---|---|
| CAD 211 | CATIA – Level 1 | 4 |
| CAD 212 | CATIA - Surfacing | 4 |
| CAD 221 | SolidWorks – Level 1 | 4 |
| MET 160 | Composite Materials | 3 |
| MET 290 | Metallurgy Internship | 3 |
| MFG 103 | Basic Computer Numerical Control | 3 |
| MFG 105 | Manufacturing Processes | 4 |
| MFG 110 | Geometric Dimensioning and Tolerancing with Inspection | 3 |
| 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 |

*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.*