

MANUFACTURING TECHNOLOGY DRAFTING/DESIGN, A.A.S.

The Manufacturing Technology program provides training in a wide variety of skill areas of product manufacturing and services. The four degree options in the program are Automated Manufacturing Systems, Drafting/Design, Manufacturing Technology and Manufacturing Engineering Technology. Automated Manufacturing is designed to prepare the student for careers in computer-aided manufacturing, robotics and numerical control. Drafting/Design prepares the student for careers in the drafting and computer-aided design areas. Manufacturing Technology provides the student with a broad background in the areas of machining, drafting and fluid systems so as to prepare them for entry level positions as machine operators, machine maintenance personnel and quality control personnel. The Manufacturing Engineering Technology degree prepares students for entry-level engineering technician positions in manufacturing. This degree requires 65 credits in program requirements, program electives and general education in the courses listed below.

For more information about Manufacturing Technology, please visit the program page (<http://www.cod.edu/manufacturing/>).

Degree Requirements

Field of Study Code: MANUF.AAS.DRAFT

| Code | Title | Credits |
|--|--|---------|
| Program Requirements | | |
| MANUF 1101 | Industrial Design/CAD | 3 |
| MANUF 1104 | Technical Mechanics | 2 |
| MANUF 1121 | Physical Metallurgy | 3 |
| MANUF 1151 | Machine Shop I | 3 |
| MANUF 1180 | Quality Control | 3 |
| MANUF 2202 | Solid Modeling and Design | 3 |
| MANUF 2203 | Manufacturing Processes and Design | 3 |
| MANUF 2206 | Mechanical Computr-Aided Drafting/Design | 3 |
| MANUF 2207 | Tool Design | 3 |
| MANUF 2208 | Mechanical Design Portfolio | 3 |
| ELECT 1100 | Electricity and Electronics Fundamentals | 3 |
| Program Electives | | |
| Select 13 credits from the following: ¹ | | 13 |
| MANUF 1110 | Metrology | |
| MANUF 2201 | Geometric Dimensioning and Tolerancing | |
| MANUF 2251 | Computer Numerical Control (CNC) | |
| MANUF 2280 | Industrial Safety | |
| MANUF 2281 | Cost Analysis | |
| ELMEC 1141 | Hydraulics and Pneumatics | |
| ELMEC 1171 | Introduction to Robotic Technology | |
| ELMEC 1190 | Intro to Programmable Logic Controllers | |
| WELD 1100 | Welding I | |
| General Education | | |
| Select 20 credits ¹ | | 20 |
| Communication: Written (3 credits) | | |

| | |
|--|-----------|
| Communication: Oral (3 credits) | |
| Physical/Life Sciences (3-5 credits) | |
| Mathematics (3-5 credits, 1000 level or above) | |
| Humanities (3 credits) | |
| Social & Behavioral Sciences (3 credits) | |
| Total Credits | 65 |

¹ In addition to the courses listed above.

General Education Requirements

For general education requirements for the A.A.S. degree, please visit the A.A.S. degree catalog page (<https://catalog.cod.edu/associate-degree-programs/associate-applied-science-degree/>).

Suggested Semester Sequence

| Course | Title | Credits |
|------------------------|--|--------------|
| First Semester | | |
| MANUF 1101 | Industrial Design/CAD | 3 |
| MANUF 1151 | Machine Shop I | 3 |
| MANUF 1180 | Quality Control | 3 |
| ELECT 1100 | Electricity and Electronics Fundamentals | 3 |
| GEN ED | General Education | 3-5 |
| Credits | | 15-17 |
| Second Semester | | |
| MANUF 2201 | Geometric Dimensioning and Tolerancing | 3 |
| MANUF 2202 | Solid Modeling and Design | 3 |
| MANUF 1104 | Technical Mechanics | 2 |
| GEN ED | General Education | 3-5 |
| GEN ED | General Education | 3-5 |
| Credits | | 14-18 |
| Summer Semester | | |
| GEN ED | General Education | 3-5 |
| ELECTIVE | Elective | 3-5 |
| Credits | | 6-10 |
| Third Semester | | |
| MANUF 2203 | Manufacturing Processes and Design | 3 |
| MANUF 2206 | Mechanical Computr-Aided Drafting/Design | 3 |
| GEN ED | General Education | 3-5 |
| ELECTIVE | Program Electives | 3-5 |
| Credits | | 12-16 |
| Fourth Semester | | |
| MANUF 1121 | Physical Metallurgy | 3 |
| MANUF 2207 | Tool Design | 3 |
| MANUF 2208 | Mechanical Design Portfolio | 3 |
| ELECTIVE | Program Electives | 3-5 |
| GEN ED | General Education | 3-5 |
| Credits | | 15-19 |
| Total Credits | | 62-80 |

Program Milestones

First Semester

- Consider joining or visiting with a professional, cultural or interest-based Student Club (http://cod.edu/student_life/clubs_org/).
- Attend Project Hire-Ed Seminar

Second Semester

- If you have not done so yet this semester, it is important to make an appointment with a Faculty or Program Advisor (<https://www.cod.edu/academics/programs/manufacturing/faculty.aspx>) to discuss your future academic progress.
- Join Engineering Technology Club
- Find summer entry level Manufacturing job

Third Semester

- Pursue 4 year course options
- Build Professional Resume
- Attend National Trade show

Fourth Semester

- Decide on Career vs Education

This page lists programs related to one another.

- Automated Manufacturing Systems, A.A.S. (<https://catalog.cod.edu/programs-study/manufacturing-technology/automated-manufacturing-systems-aas/>)
- Automated Manufacturing Systems, Certificate (<https://catalog.cod.edu/programs-study/manufacturing-technology/automated-manufacturing-systems-certificate/>)
- CNC Operations, Certificate (<https://catalog.cod.edu/programs-study/manufacturing-technology/cnc-operations-certificate/>)
- Computer-Aided Design, Certificate (<https://catalog.cod.edu/programs-study/manufacturing-technology/computer-aided-design-certificate/>)
- Drafting/Design, Certificate (<https://catalog.cod.edu/programs-study/manufacturing-technology/draftingdesign-certificate/>)
- Manufacturing Engineering Technology, A.A.S. (<https://catalog.cod.edu/programs-study/manufacturing-technology/manufacturing-engineering-technology-aas/>)
- Manufacturing Skills Standards, Certificate (<https://catalog.cod.edu/programs-study/manufacturing-technology/manufacturing-skills-standards-certificate/>)
- Manufacturing Technology, A.A.S. (<https://catalog.cod.edu/programs-study/manufacturing-technology/manufacturing-technology-aas/>)
- Manufacturing Technology, Certificate (<https://catalog.cod.edu/programs-study/manufacturing-technology/manufacturing-technology-certificate/>)
- Mold Making, Certificate (<https://catalog.cod.edu/programs-study/manufacturing-technology/mold-making-certificate/>)
- Tool and Die Making, Certificate (<https://catalog.cod.edu/programs-study/manufacturing-technology/tool-die-making-certificate/>)