## MECHANICAL TECHNOLOGY, Certificate - 4350

Science Department
CIP Code: 15.0805
The Mechanical Engineering Technology certificate teaches students solids-modeling as well as two-dimensional and threedimensional drafting techniques. The sophisticated, high technology of computer numerical controls (CNC) and programmable logic controls (PLC) systems for computer-assisted manufacturing is also included. This certificate may be completed at the Harrisburg Campus through on-campus/in-person instruction.

## Career Opportunities

Graduates are prepared for entry-level employment as drafters or technical assistants in government or industry.
(SOC Code: 17-3013 Mechanical Drafters)

## Competency Profile

This curriculum is designed to prepare students to:

- Draft design details and production drawings for mechanical components using a computer-aided-drafting (CAD) system
- Serve as entry-level programmers for numerical control (NC)/computer numerical control (CNC) equipment
- Install and test mechanical equipment
- Serve as aides to engineers and scientists
- Serve as apprentice machinists


## PROGRAM REQUIREMENTS (TOTAL CREDITS = 31)

## General Education

| Major Requirements |  |
| :--- | :--- |
| CAD 154 Computer Aided Drafting and Design | 3 |
| ELEC 100 Fundamentals of Electricity and Electronics | 1 |
| ENGR 102 Engineering \& Engineering - Tech Orientation | 2 |
| ENGR 208 Microcontrollers \& PLCs | 3 |
| GTEC 104 Engineering Materials \& Processes | 3 |
| GTEC 201 Statics | 3 |
| IA 205 Computer Numerical Control | 3 |
| MDES 207 Machine Shop Theory and Practice | $\underline{1}$ |
| $\mathbf{1 9}$ |  |


| Other Required Courses |  |
| :--- | :--- |
| MATH 103 College Algebra | 3 |
| MATH 104 Trigonometry | 3 |
| Program Specific Electives* | $\underline{6}$ |
|  | $\mathbf{1 2}$ |

GTEC 104 Engineering Materials \& Processes 3
GTEC 201 Statics 3
MDES 207 Machine Shop Theory and Practice $\quad \frac{1}{19}$
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*Select from the options below: ACCT 101; CAD 115, 164; CPS 113, 115, 135; CHEM 101; CVTE 120, 208; ELEC 100, 101, 108, 125, 126; ENGR 291; GTEC 202, 208; MDES 201, 204, 206; MDRF 101, 103; MATH 119, 121, 202; MGMT 201; PHYS 201, 202.

## RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part time students can complete this program by taking one or more courses each semester.

Fall Semester I

| CAD 154 | 3 | ENGR 208 | 3 |
| :--- | :--- | :--- | :--- |
| ELEC 100 | 1 | GTEC 104 | 3 |
| ENGR 102 | 2 | GTEC 201 | 3 |
| MDES 207 | 1 | IA 205 | 3 |
| MATH 103 | 3 | Program Electives* | 6 |
| MATH 104 | 3 |  |  |

