*Science, Technology, Engineering & Mathematics Division*

# MECHANICAL ENGINEERING TECHNOLOGY

**This program is accredited by the Engineering Technology Accreditation Commission of ABET,** [**http://www.abet.org.**](http://www.abet.org)

Mechanical engineering deals with POWER, and with the machinery used to convert power to useful work. The mechanical engineering technician is a practically-oriented member of the engineering team which applies existing technology to the solution of engineering problems. The mechanical engineering technician designs machines and processes used to generate and apply power to useful purposes. For example, a mechanical engineering technician may assist in the design of a power plant, testing of a space shuttle, manufacturing of a nuclear submarine, or building of an aircraft carrier.

Naugatuck Valley Community College’s Mechanical Engineering Technology Program combines theory with laboratory experience. Subjects such as mathematics, physics, engineering mechanics, fluid mechanics, materials of engineering, thermodynamics, and mechanical design are included within the curriculum. After the theory is taught, it is applied to practical situations in the laboratories, which are supervised by professional engineers. Students learn how to set up and conduct an experiment, to extract and analyze engineering data, and to solve problems which require the application of engineering principles.

As a result of the training and preparation provided by our program, the Mechanical Engineering Technology student is ready to be employed by industry upon graduation. The blend of ‘hands-on’ experience with theoretical background, the applications to current technology, and the individual initiative that the student develops, make our graduates very marketable in the workforce. Graduates of the Mechanical Engineering Technology Program are successfully employed in many different industries in such positions as: laboratory technicians, field service technicians, design engineering technicians, application engineering technicians, and plant engineering technicians.

*General Education Core course listings and definitions appear on pages 53-54. Additional courses may be required.* ***Note: The Mechanical Engineering Technology (MET) program is highly sequenced.*** *To complete the degree in two years, students are advised to complete the courses in the sequence listed beginning in the fall semester.*

***Associate***

***Degree***

***Programs***

|  |  |  |
| --- | --- | --- |
| **Competency or Program Requirement** | **Course Number and Title** | Required Credits |
| **FIRST SEMESTER** |  |  |
| Continuing Learning/Information  Literacy and Ethics | TCN\*H101 Introduction to Engineering Technology | 3 |
| Critical Analysis and Logical Thinking/  Written Communication | ENG\*H101 Composition | 3 |
| Quantitative Reasoning | MAT\*H186 Precalculus1 | 4 |
| Scientific Reasoning | PHY\*H121 General Physics I **OR**  PHY\*H221 Calculus-based Physics I2 | 4 |
| Program Requirement | CAD\*H150 CAD 2D | 3 |
| **SECOND SEMESTER** |  |  |
| Scientific Knowledge | CHE\*H121 General Chemistry I | 4 |
| Program Requirement | MAT\*H254 Calculus I | 4 |
| Program Requirement | CAD\*H200 3D CAD Modeling | 4 |
| Program Requirement | MFG\*H104 Manufacturing Processes | 4 |
| **THIRD SEMESTER** |  |  |
| Written Communication | ENG\*H102 **OR** ENG\*H200  **OR** ENG\*H202 3 | 3 |
| Program Requirement | MEC\*H114 Statics (fall only) | 3 |
| Program Requirement | EET\*H102 Electrical Applications | 3 |
| Program Requirement | MEC\*H271 Fluid Mechanics(fall only) **OR** MEC\*H240 Fundamentals of Heat and Thermodynamics (fall only)4 | 4 |
| Program Requirement | Directed Elective5 | 3 |
| **FOURTH SEMESTER** |  |  |
| Oral Communication | Choose any Oral  Communication listed4 | 3 |
| Social Phenomena | Choose any Social Phenomena listed | 3 |
| Program Requirement | MEC\*H251 Materials  Strength (spring only) | 4 |
| Program Requirement | MEC\*H238 Dynamics (spring only) | 4 |
| Program Requirement | Directed Elective3 | 3 |

## Total Credits: 66

*Any given course may only be used to satisfy one of the competency areas even if it is listed under more than one.*

1 MAT\*H172 College Algebra and MAT\*H185 Trigonometric Functions can be used together as a substitute.

2 Course only offered in Summer. Offered during the Fall or Spring at Tunxis, Gateway, Housatonic, Norwalk, CCSU, SCSU, and WCSU.

3 ENG\*H202 Technical Writing and COM\*H173 Public Speaking recommended for transfer to CCSU.

4 MEC\*H240 and MEC\*H271 are offered alternating fall semesters. Enroll in whichever is offered.

5 Choose from any 200-level CAD\* 200-level EET\*, 200-level MAT\*, 200-level MEC\*, 200-level MFG\*; PHY\*H222

### Program Educational Objectives (PEOs)

*Upon successful completion of all program requirements, graduates will:*

1. Possess the educational background to do one or both of the following:

1. Obtain employment in Mechanical Engineering Technology or other related field.
2. Continue studies toward a Bachelor’s Degree in Mechanical Engineering Technology or other related field.
3. Perform effectively individually or as a member of a team working on Mechanical Engineering projects in industry or academia.
4. Act with the high professional, moral and ethical standards expected of a Mechanical Engineering Technician.

### Student Outcomes (SOs)

*Upon successful completion of all program requirements, graduates will possess:*

1. An ability to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities.
2. An ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge.
3. An ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments.
4. An ability to function effectively as a member of a technical team.
5. An ability to identify, analyze, and solve narrowly defined engineering technology problems.
6. An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.
7. An ability to understand the need for and engage in self-directed continuing professional development
8. An ability to understand and commit to address professional and ethical responsibilities, including a respect for diversity.
9. An ability to commit to quality, timeliness, and continuous improvement.
10. An ability to specify, calibrate and set-up instrumentation for mechanical components.
11. Familiarity with industry codes and standards.

Also see: Computer-Aided Drafting/Design,

Engineering Technology, Electronic Engineering

Technology, Engineering Technology

Manufacturing (Automated) Engineering Technology