Mechanical Engineering Technology (AS)

The objective of the Mechanical Engineering Technology program is to prepare its graduates both for immediate employment as technicians and for further study at the Bachelor's level in Mechanical Engineering Technology. This program keeps a close connection with industry. Its Industrial Advisory Committee, consisting of mechanical engineering and mechanical engineering technology professionals in Greater Boston and New England, meets periodically to evaluate the objectives, curriculum, and course content, to keep the program updated and practical.

With a strong foundation in manufacturing processes and CAD (SolidWorks), graduates of the Mechanical Engineering Technology program are prepared for employment as Machinists, Mechanical Designers, Design Drafters, Assistant Mechanical Engineers, Engineering Research Assistants, Mechanical Engineering Associates, Manufacturer's Representatives, Specifications and Technical Specialists, etc. Those students who have successfully completed Calculus II and University Physics I and II are prepared with a solid and sound academic foundation to transfer to a four-year college or university to pursue a Bachelor's Degree in Mechanical Engineering or Mechanical Engineering Technology. Articulation agreements are in place with Wentworth Institute of Technology and University of Massachusetts Dartmouth.

Curriculum

The Mechanical Engineering Technology Program includes fundamental and advanced courses in statics, materials, thermodynamics, CAD with SolidWorks, machine design with 3-D solid modeling design, manufacturing processes, and CNC machine programming.

Four semesters of mathematics are required for graduation. Students will be placed in an appropriate math course, based on math skills assessment. It is recommended that students, planning to transfer to an upper division university, take math through Calculus II and University Physics I and II.

Humanities, social sciences, and English courses comprise part of the curriculum to ensure the graduates possess broader social visions and proficient and effective communication skills.

Facilities

The Mechanical Engineering Technology Department maintains a CAD (SolidWorks) classroom, a fabrication and material testing laboratory that includes CNC machines, robotics, casting equipment and an assortment of hand tools and measuring equipment.

Outcomes

Upon successful completion of the Associate Degree in Mechanical Engineering Technology, the graduate will be able to:

- Utilize SolidWorks to manufacture engineering drawings and to analyze interference fits and tolerances.
- Program and operate CNC equipment in an industrial environment.
- Understand manufacturing processes and their uses in industry.
- Design and build products and equipment for a changing technical environment.
- Demonstrate a knowledge of mathematics and the ability to apply this knowledge as practiced in Materials, Statics, Physics and Thermodynamics.
- Effectively communicate technical observations, results, issues and successes in both oral and written form.
- Demonstrate the fundamental skills necessary for continuing their education towards a bachelor's degree in mechanical engineering technology or related fields.
- Understand professional, ethical and social responsibilities.
- Work effectively in a team-oriented/project-focused work environment.

Faculty

TBA, Chair

Instructor Staff: Roy Garber, David Post

Degree Requirements: Mechanical Engineering Technology (AS)

TECHNICAL COURSES: 37 CREDITS

Course #	Course Title	Credits	Lecture	Lab
EE214	Electricity and Electronics	4	3	2
ME105	CAD with SolidWorks	3	2	2
ME106	Advanced CAD	3	2	2
ME110	Statics	4	4	0
ME141	Materials	3	3	0
ME150	Introduction to Manufacturing	4	2	4
ME151	Manufacturing Processing & CNC	4	2	4
ME240	Machine Design with SolidWorks	4	3	2
ME250	Advanced Manufacturing & CNC	4	2	4
ME252	Thermodynamics	4	4	0

GENERAL EDUCATION COURSES: 34 CREDITS

Course #	Course Title	Credits	Lecture	Lab
EN130	College Composition I	3	3	3
EN140	College Composition II	3	3	3
HU/SS	Elective	3	3	3
HU/SS	Elective	3	3	3
MA120	College Algebra and Trigonometry	3	3	3
MA130	Pre-Calculus	3	3	3
MA240	Calculus I	4	4	0
MA250	Calculus II	4	4	0
PH215	Physics Lab I	1	0	2
PH222	University Physics I	3	3	0
PH223	University Physics II	3	3	0
PH225	Physics Lab II	1	0	2

Typical Course Sequence for Mechanical Engineering Technology

SEMESTER 1

EN130	College Composition I
MA120	College Algebra and Trigonometry
ME105	CAD with SolidWorks
ME150	Introduction to Manufacturing

SEMESTER 2

EN140	College Composition II
HU/SS	Elective
MA130	Pre-Calculus
ME106	Advanced CAD
ME141	Materials
ME151	Manufacturing Processing & CNC

SEMESTER 3

HU/SS	Elective
MA240	Calculus I
ME110	Statics
ME252	Thermodynamics
PH215	Physics Lab I
PH222	University Physics I

SEMESTER 4

EE214	Electricity and Electronics
MA250	Calculus II
ME240	Machine Design with SolidWorks
ME250	Advanced Manufacturing & CNC
PH223	University Physics II
PH225	Physics Lab II