

MECHANICAL ENGINEERING TECHNOLOGY, A.A.S.

Major Code: 0493

Mechanical Engineering Technology applies almost universally to industry and engineering technology. It is oriented to production and is concerned with such areas as product design, manufacturing technology, product and material testing, and quality control.

The curriculum emphasizes three technical streams: technical graphics communication, manufacturing processes, and mechanical design. It is a laboratory-oriented program that provides a wide selection of courses in CAD, machining, mechanical design and manufacturing processes. A hands-on equipment philosophy applies from drafting to machining to hydraulics. Theory and practical work are coordinated to give a thorough but broad understanding of the skills required by industry.

Career Opportunities

The Mechanical Engineering Technology program prepares students to enter manufacturing or allied industries as an engineering technician, quality and production control technician, a laboratory technician in plant operation, mechanical design, metal working, and foundry industries, or as a CAD drafter/designer, product designer under the direction of design chiefs or project engineers in the areas of product development and detailing, manufacturing design, and product design. The Mechanical Engineering Technology program prepares students for careers in design and drafting, engineering aide, laboratory technician, quality and production control, plant engineering technician, mechanical design, metal working, and foundry industries.

Transfer Options

Most Mechanical Engineering Technology graduates pursue a four-year degree in Mechanical Engineering Technology, Manufacturing Engineering Technology, or Computer-Integrated Manufacturing Technology. It's recommended to take MATH 151 for easier transfer into junior year in related 4-year programs in the SUNY system as part of SUNY Transfer Path (Seamless Transfer) program.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities;
- Apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge;
- Conduct standard tests and measurements, and to conduct. Analyze, and interpret experiments;
- Function effectively as a member of a technical team;
- Identify, analyze, and solve narrowly defined engineering technology problems;
- Apply written, oral, and graphical communication in both technical and non-technical environment; and an ability to identify and use appropriate technical literature;
- Understand the need to engage in self-directed continuing professional development;

- Show a commitment to address professional and ethical responsibilities, including a respect for diversity; and
- Show a commitment to quality, timeliness, and continuous improvement.

SUNY General Education Requirements: (<https://system.suny.edu/academic-affairs/acaproplan/general-education/suny-ge/>) All SUNY Morrisville AAS degree programs require completion of at least 20 credits of SUNY GE, a minimum of four (out of ten) knowledge and skills areas (including the four required knowledge and skills areas as indicated below), and completion of the two core competencies. The specific courses required within each knowledge and skills area/core competency for this degree program are outlined below.

Knowledge and Skills Areas:

- Communication Written & Oral (required)
as advised
- Diversity: Equity, Inclusion, and Social Justice* (required) as advised
- Mathematics (and Quantitative Reasoning) (required)
MATH 103
- Natural Sciences (and Scientific Reasoning) (required) as advised
- Humanities
as advised
- Social Sciences
as advised
- The Arts
as advised
- US History and Civic Engagement
as advised
- World History and Global Awareness
as advised
- World Languages
as advised

Core Competencies:

- Information Literacy* (required)
as advised
- Critical Thinking and Reasoning* (required)
as advised

Curriculum Requirements

A minimum of 60 credits is required for degree completion.

Code	Title	Credits
CAD 184	CAD for Mechanical Design	2
CAD 186	3-D Parametric Solid Modeling	2
DRFT 151	Engineering Drawing I	2
DRFT 252	Geometric Dimension Tolerance	2
MFG 110	Dimensional Metrology	2
MFG 206	CNC Machining	3
MFG 207	Quality Control	2
MFG 208	CAM - Mastercam	2
MFG 221	Manufacturing Processes 1	3
MFG 240	Design/Manufacture Capstone	3
MECH 101	Machine Tools	3

MECH 120	Engineering Materials	3
MECH 211	Analytical Mechanics (Statics)	3
MECH 212	Mechanical Design	4
MECH 213	Strength of Materials	4
MECH 233	Fluid Power and Control	4
PHYS 107	Introductory Physics I	4
COMM 105	Research & Communication	3
MATH 103	College Algebra w/ Trig	3
COMP 110	Technical Communications	3
SUNY General Education Diversity: Equity, Inclusion, and Social Justice as Advised as advised		3
Total Credits		60

Sample Course Sequence

Course	Title	Credits
Year 1		
Fall		
COMM 105	Research & Communication	3
MATH 103	College Algebra w/ Trig	3
PHYS 107	Introductory Physics I	4
DRFT 151	Engineering Drawing I	2
MECH 120	Engineering Materials	3
CAD 184	CAD for Mechanical Design	2
Credits		17
Spring		
COMP 110	Technical Communications	3
MFG 110	Dimensional Metrology	2
MECH 211	Analytical Mechanics (Statics)	3
MECH 101	Machine Tools	3
CAD 186	3-D Parametric Solid Modeling	2
SUNY General Education Diversity: Equity, Inclusion, and Social Justice as Advised		3
Credits		16
Year 2		
Fall		
MECH 213	Strength of Materials	4
MFG 221	Manufacturing Processes 1	3
MFG 206	CNC Machining	3
DRFT 252	Geometric Dimension Tolerance	2
SUNY General Education Elective as Advised		3
Credits		15
Spring		
MECH 212	Mechanical Design	4
MFG 240	Design/Manufacture Capstone	3
MECH 233	Fluid Power and Control	4
MFG 207	Quality Control	2
MFG 208	CAM - Mastercam	2
Credits		15
Total Credits		63