MECHANICAL ENGINEERING TECHNOLOGY Program (MET)

Educational Objectives

1. Our graduates will possess the strengths to obtain and advance in positions that require analysis, applied design, development, implementation, or oversight of mechanical systems and processes.

2. Our graduates will have the knowledge, problem solving ability, and hands-on skills to be successful in careers in the design, installation, manufacturing, testing, evaluation, technical sales, or maintenance of mechanical systems.

3. Our graduates will have the foundation to take advantage of opportunities for life-long learning and professional development.

Student Outcomes

a. An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities;
b. An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies;
c. An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes;
d. An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives;
e. An ability to function effectively as a member or leader on a technical team;
f. An ability to identify, analyze, and solve broadly-defined engineering technology problems;
g. An ability to apply written, oral, and graphical communication in both technical and nontechnical environments; and an ability to identify and use appropriate technical literature;
h. An understanding of the need for and an ability to engage in self-directed continuing professional development;
i. An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;
j. A knowledge of the impact of engineering technology solutions in a societal and global context;
k. A commitment to quality, timeliness, and continuous improvement.

Program Criteria

1. Geometric dimensioning and tolerance; computer aided drafting and design; and a basic knowledge and familiarity with industry codes, specifications, and standards;
2. Selection, set-up, and calibration of instrumentation and the preparation of laboratory reports and systems documentation associated with the development, installation, or maintenance of mechanical components and systems;
3. Basic engineering mechanics. An associate degree program must have an integrating or capstone experience, which utilizes the skills, acquired.
4. Differential and integral calculus;
5. Manufacturing processes; material science and selection; solid mechanics (such as statics, dynamics, strength of materials, etc.) and mechanical system design;
6. Thermal sciences, such as thermodynamics, fluid mechanics, heat transfer, etc.;
7. Electrical circuits (ac and dc), and electronic controls; and
8. Application of industry codes, specifications, and standards; and using technical communications, oral and written, typical of those required to prepare and present proposals, reports, and specifications.