

ELECTRICAL MECHANICAL ENGINEERING TECHNOLOGY

Enrollment and Graduation Data

Fall 2018 Enrollment – 113

2017-18 Graduates – 23 BS degrees conferred

Program Objectives

Graduates from RIT's E/MET Program will be:

- Leaders in an industrial workplace with strong ethics and communications skills; able to participate on and lead teams with diverse technical and personal backgrounds.
- Able to apply appropriate computational, engineering, and mathematical analysis techniques to characterize and optimize the performance of electrical, mechanical, or electromechanical systems.
- Able to effectively design, develop, and implement electrical, mechanical, or electromechanical systems.
- Able to integrate practical electrical and mechanical engineering technology backgrounds with advances in components, control systems, and manufacturing processes to produce cutting edge products while minimizing cost and environmental impacts.
- Life-long-learners who are able to grow professionally by seeking out opportunities for training and certifications.

Student Outcomes

General Criteria

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-w. an ability to apply written and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature;

g-o. an ability to apply oral and graphical communication in both technical and non-technical environments;

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; and

k. a commitment to quality, timeliness, and continuous improvement.

Program Specific Criteria

EMET1. Utilize geometric dimensioning and tolerancing, and computer aided drafting and design to document component design.

EMET2. Select, set-up, and calibrate of instrumentation typically used in mechanical components and systems;

EMET3. Prepare laboratory reports documenting testing associated with the development, installation or maintenance of mechanical components and systems;

EMET4. Utilize differential and integral calculus to solve engineering problems;

EMET5. Select manufacturing processes;

EMET6. Utilize material science to inform material selection;

EMET7. Apply solid mechanics, such as statics, dynamics, strength of materials, etc. to solve engineering problems,

EMET8. Apply thermal sciences, such as thermodynamics, fluid mechanics, heat transfer, etc.; to solve engineering problems,

EMET9. Utilize industry codes, specifications, and standards in the design and testing of engineering components or systems

EMET10. Prepare technical communications, oral and written, typical of those required to prepare and present proposals, reports, and specifications.

EMET11. The application of circuit analysis and design, computer programming, associated software, analog and digital electronics, and microcomputers, and engineering standards to the building, testing, operation, and maintenance of electrical/electronic(s) systems;

EMET12. The applications of natural sciences and mathematics at or above the level of algebra and trigonometry to the building, testing, operation and maintenance of electrical/electronic systems.

EMET13. The ability to analyze, design, and implement control systems, instrumentation systems, communications systems, computer systems, or power systems;

EMET14. The ability to apply project management techniques to electrical/electronic(s) systems;

EMET15. The ability to utilize differential and integral calculus, as a minimum, to characterize the performance of electrical/electronic systems.

EMET16. The ability to integrate electrical and mechanical principles to design electromechanical systems