



## METC 100

### Introduction to Engineering & Technology

#### Course Information

Division	Applied Science and Engineering Technology
Contact Hours	45.0
Total Credits	3.0

**Prerequisites** RDG 090 and MATH 090 or qualifying scores on accepted placement tests or high school algebra.

#### Course Description

This course introduces the field of Engineering Technology. Concepts related to the engineering profession are presented, including economics, ethics, research, problem solving, communication, and typical engineering problems. A major component of the course includes presentation of mathematic and scientific tools that have utility in future engineering courses and the engineering career, including computer software. Historic examples are used throughout the course to demonstrate the typical problems that were successfully solved, as well as engineering failures, and the impact of technology on society. Students are encouraged to communicate and collaborate with each other on problems. Group work is required, as well as participation in the course's discussion forum. The end goal of the course is to give the student a feel for the engineering experience.

**This course is a required core course for students pursuing a degree in  
Mechanical Engineering Technology  
Nuclear Engineering Technology**

#### Program Outcomes Addressed by this Course:

Upon successful completion of this course, students should be able to meet the program outcomes listed below:

##### Mechanical Engineering Technology

- A. Identify and define problems in mathematic and scientific terms.
- B. Produce graphic representations of designs using CAD software, Solid Modeling software, and pencil and paper methods.
- D. Apply instruments to make measurements and analyze data from such measurements.
- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications.
  - I. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills.
- J. Communicate effectively, and work as part of a team.

##### Nuclear Engineering Technology

- F. Identify and define problems in mathematics and scientific terms
- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications
- H. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills
  - I. Communicate effectively, and work as part of a team



## Course Outcomes

In order to evidence success in this course, the students will be able to:

1. Apply conversions between different units of work and energy

### **Mechanical Engineering Technology**

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- B. Produce graphic representations of designs using CAD software, Solid Modeling software, and pencil and paper methods.
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### **Nuclear Engineering Technology**

- F. Identify and define problems in mathematics and scientific terms
- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications
- H. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills
- I. Communicate effectively, and work as part of a team

2. Apply problem solving techniques and analysis tools to solve technical problems

### **Mechanical Engineering Technology**

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- D. Apply instruments to make measurements and analyze data from such measurements.
- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications.
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### **Nuclear Engineering Technology**

- F. Identify and define problems in mathematics and scientific terms
- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications
- H. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills



- I. Communicate effectively, and work as part of a team
3. Perform basic research required to solve problems

**Mechanical Engineering Technology**

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- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications.
  - I. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills.
- J. Communicate effectively, and work as part of a team.

**Nuclear Engineering Technology**

- F. Identify and define problems in mathematics and scientific terms
- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications
- H. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills
- I. Communicate effectively, and work as part of a team

4. Analyze projects and determine the reasons for success or failure

**Mechanical Engineering Technology**

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**Nuclear Engineering Technology**

- F. Identify and define problems in mathematics and scientific terms
- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications
- H. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills



5. Communicate and prepare reports of results

**Mechanical Engineering Technology**

- A. Identify and define problems in mathematic and scientific terms.
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- I. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills.
- J. Communicate effectively, and work as part of a team.

**Nuclear Engineering Technology**

- F. Identify and define problems in mathematics and scientific terms
- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications
- H. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills
- I. Communicate effectively, and work as part of a team

6. Recognize the impact on society and the environment of technical issues

**Mechanical Engineering Technology**

- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications.
- I. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills.
- J. Communicate effectively, and work as part of a team.

**Nuclear Engineering Technology**

- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications
- H. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills
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MONROE COUNTY  
COMMUNITY COLLEGE

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# Course Outcome Summary

## METC 100 Introduction to Engineering & Technology

### 7. Evaluate ethical issues resulting from technology

#### **Mechanical Engineering Technology**

- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications.
- I. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills.

#### **Nuclear Engineering Technology**

- G. Recognize assumptions and limits of analysis to the application of technology, including social and ethical implications
- H. Recognize the need to engage in lifelong learning, and to perform research or conduct investigations to continuously upgrade knowledge and skills

### 8. Work and contribute as a member of a team

#### **Mechanical Engineering Technology**

- J. Communicate effectively, and work as part of a team.

#### **Nuclear Engineering Technology**

- I. Communicate effectively, and work as part of a team

Date Updated: Mar 29, 2019

By: MJ Dubois