

Introduction to Engineering & Technology

Outline of Instruction

Course Information

Organization	Monroe County Community College
Course Number	METC 100
Instructional Area	Industrial Technology
Total Credits	3

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. Groupwork 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.

MAJOR UNITS

1. Introduction to Engineering
2. Energy, Power, Units and Conversion
3. Problem Solving Techniques
4. Problem Solving Tools
5. Understanding and Communicating Results
6. Engineering Economics
7. Engineering Ethics
8. Social Issues
9. Engineering Successes
10. Engineering Failures
11. Engineers as Personalities - Case Studies

Types of Instruction

Instruction Type

The methods of instruction utilized in this course will include but not be limited to assigned readings and research, discussion board participation, report generation, and problem solving.

Contact Hours

Credits

3

Prerequisites

High School Algebra

Course Outcomes

1. Apply conversions between different units of work and energy
2. Apply problem solving techniques and analysis tools to solve technical problems
3. Perform basic research required to solve problems
4. Analyze projects and determine the reasons for success or failure
5. Communicate and prepare reports of results
6. Recognize the impact on society and the environment of technical issues
7. Evaluate ethical issues resulting from technology
8. Work and contribute as a member of a team