
MIDDLESEX

COUNTY COLLEGE

COURSE SYLLABUS

Department:	Engineering Technologies
Programs:	Civil Engineering Technology Electrical Engineering Technology Mechanical Engineering Technology
Course Number:	MCT 101
Title of Course:	Introduction to Engineering Technology
Curriculum Coordinator:	James Finne
Designation:	Required Course

Course Description:

An introduction to engineering fundamentals and design through lecture, classroom activities, design and laboratory projects in the areas of Civil, Electrical and Mechanical technology. Students will learn how to formulate and solve engineering problems, both working individually and as part of a team.

Prerequisite:

MAT 013 Algebra I

Co-requisite:

MAT 014 Algebra II

Textbooks and /or other required material:

No text required

Course Learning Outcomes and their relationships to Student Outcomes:

1. Identify and define the steps in the Engineering Design Method.
2. Perform basic unit conversions within/between the English and International systems.
3. Solve basic engineering problems using Plane and Solid Geometry. **(SO e)**
4. Solve basic engineering problems using Trigonometry.
5. Solve problems using fundamental engineering formulas. **(SO e)**
6. Work in a team environment creating potential solutions to design problems.
7. Demonstrate and understanding of engineering ethics by identifying ethical vs unethical behaviors. **(SO h)**
8. Demonstrate the ability to find and use technical specifications and data from manufacturer's specification sheets.
9. Produce design documents for a simple system.
10. Perform calculations and report the results to the proper number of significant digits.
11. Recognize the need for and an ability to engage in lifelong learning.

Topics Covered:

- Brief history of Engineering
- The Engineering Design Method
- Unit conversions
- Plane & solid geometry applications
- Trigonometry applications
- Scientific notation & rounding
- Basic Civil, Electrical and Mechanical Engineering problem solving
- Engineering ethics
- Presentation methods

Lab Topics May Include

- Motor pump coupler
- Internal combustion engine teardown
- 555 timer circuit
- Surveying
- Ethics report
- House deck

Class/Laboratory schedule. Number of sessions each week and duration of each session:

1 hour of lecture per week for 14 weeks

2 hours of laboratory per week for 14 weeks

Criterion 5 Contribution:

Technical Content

Prepared By:	Thom Sabol	Date:	3-24-2008
Updated By:	Thom Sabol	Date:	4-1-2010 Rev 1
Updated By:	Craig Stickler	Date:	9-7-2010 Rev 2
Updated By:	Craig Stickler	Date:	1-21-2011 Rev 3
Updated By:	Craig Stickler: Changed student outcomes to match updated ABET student outcomes list. Added word "May Include" to Lab Topics list.	Date:	4-11-2014 Rev 4
Rev 5:	General Update	Date:	3/15/21