

University of Toledo

Mechanical Engineering Technology

Master Syllabus

Course Title: Senior Technology Capstone

Course Code & Number: ENGT 4050

Credit Hour Total: 3 Semester Hours

Lecture Contact Hours: 3

Lab Contact Hours: 0

Prerequisite: Senior Standing

Corequisite: None

Text: None

A. Course Description

This course will provide each student with the opportunity to work in a team environment to solve design problems and to utilize his/her knowledge in critical thinking. Students will reach design decisions and will make oral and professional presentations to their peers and to professionals at the *Senior Design and Undergraduate Research Expo* at term's end. Students are expected to show evidence of significant individual contributions to team efforts, as well as due consideration of such design aspects as effectiveness, material selection, ergonomics, safety, cost, effect on the environment, ethics, ease of productions, etc.

B. Related Outcomes (b, d, e, f, g, h, l, j, k):

- Ability to apply current knowledge
- Ability to apply creativity in design
- Ability to function on teams
- Ability to identify, analyze and solve problems
- Ability to communicate effectively
- Recognition of lifelong learning
- Understand professional, ethical and social responsibility
- Knowledge of professional, societal and global issues
- Commitment to quality and improvement

C. Course Objectives:

Upon successful completion of this course, the student will have:

- The ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering and technology,
- The ability to apply creativity in the design of systems, components or processes appropriate to program objectives,
- The ability to function effectively on teams,
- The ability to identify, analyze and solve technical problems,
- The ability to communicate effectively,
- A recognition of the need for, and the ability to engage in, lifelong learning,
- The ability to understand professional, ethical and social responsibilities,
- A respect for diversity and a knowledge of contemporary professional, societal and global issues, and
- A commitment to quality, timeliness and continuous improvement.

D. Course Outline – Major Content Areas

- Value Engineering
- Marketability
- Value Added Design
- Presentation Skills
- Public Speaking
- Budget Development
- Ethics
- Intellectual Property Overview
- Resume Development
- Professional Appearance