

# University of Toledo

## Construction Engineering Technology

### Master Syllabus

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**Course Title:** Intro to Construction Engineering Technology **Course Code & Number:** CET-1010

**Credit Hour Total:** 1 **Weekly Contact Hours Lecture:** 1 **Lab Hours:** 0

**Prerequisite(s):** None

**Text:** None

**Software:** None

**Course Coordinator:** Kissoff

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**A. Course Description** (Approved catalog description.)

An introduction to Construction Engineering by introducing career sectors, current topics, teamwork, safety and the curriculum in order to provide the freshman CET student with building blocks for success within the program.

**B. Related Program Outcomes:**

Upon successful completion of the Construction Engineering Technology program, graduates will have:

ABET/Student Outcomes

- (1) an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
- (3) an ability to apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
- (5) an ability to function effectively as a member as well as a leader on technical teams.

The course also supports coverage of the following curricular areas:

Program Criteria

- d) the application of fundamental computational methods and elementary analytical techniques in sub-disciplines related to construction engineering;
- h) the application of appropriate principles of construction management, law, and ethics;

Discipline Specific Content

- + Professional responsibilities
- + Ethical responsibilities

Evidence of the success of these outcomes is provided by the collection and analysis of:

- Engineering Ethics Quiz
- Engineering Ethics Case Study Assignment
- Communications Assignment
- Professional Registration Quiz
- Teamwork Quiz
- Graduate Degree Quiz
- CETK Double Final Quiz
- “Figure It Out” Calculation Presentation

### **C. Course Objectives:**

Upon completion of this course the student will possess:

1. An understanding of the role of Construction Engineering graduate in the industry and how the student’s education fits into that place within the industry.
2. An appreciation of current trends in engineering and construction.
3. An appreciation for engineering ethics and professionalism.
4. A knowledge of basic construction safety practices.
5. A knowledge of the CET quality control practices required in team projects.
6. An appreciation for the roles required in teamwork.
7. A knowledge of basic communication procedures within the program and construction industry.

### **D. Course Outline – Major Content Areas:**

1. An overview of the construction profession and how it differs and is similar to civil engineering.
2. An overview of the CET curriculum and how the classes fit together as students progress through the program and how the courses apply to the construction industry.
3. Investigation of career sectors within the construction field including construction contracting, civil & architectural consulting, agency engineering administration and materials testing.
4. Basic ethics and professionalism within the industry.
5. Professional registration and certification requirements and discussion of academic paths that may assist in successful registration.
6. A discussion of the program curriculum including:
  - a) Elective pathways.
  - b) Graduate school options.
  - c) Business Minor.
7. Basic construction safety procedures.
8. Current trends and issues in the construction industry.
9. Professional communications and documentation.
10. Quality assurance and continuous improvement techniques.

### **E. Suggested Laboratory Tests**

1. Teamwork Bridge Competition