

University of Toledo

Construction Engineering Technology

Master Syllabus

Course Title: Construction Materials and Codes **Course Code & Number:** CET-1150

Credit Hour Total: 3 **Weekly Contact Hours Lecture:** 3 **Lab Hours:** 0

Prerequisite(s): None

Text: Fundamentals of Building Construction, Materials and Methods 6th Ed.
Allen ISBN: 978-1118138915

Software: None

Course Coordinators: Beall

A. Course Description (Approved catalog description.)

This course consists of an introduction to terminologies and properties of construction materials and techniques from foundation, floor, wall and roof systems, as well as thermal and moisture protection and finish work. Sources of manufacturer's material information are discussed. An introduction is made into the various building codes and code organizations as related to new and existing buildings.

B. Related Program Outcomes:

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

ABET/Student Outcomes

None

Program Criteria Outcomes

3. The ability to demonstrate a thorough knowledge of common construction methods and design procedures associated with building, highway and heavy construction projects.
4. The ability to demonstrate a thorough knowledge of common construction materials- both their proper usage and proper testing procedures.
8. An understanding of codes and specifications in the implementation of building and highway projects.

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

- Final Exam Results
- Construction Research Papers

C. Course Objectives:

Upon completion of this course the student will have:

1. An understanding of the terminology and systems regarding buildings.

2. An understanding of the use and limitations of building materials.
3. An understanding of building codes with relation to the use of specific materials.
4. An understanding of building codes with relation to the size and occupancy of buildings.
5. An understanding of life safety matters especially as they relate to building egress.

D. Course Outline – Major Content Areas:

1. Building Construction
2. Foundations
3. Wood
4. Fire and Smoke Codes
5. Wood and Timber Framing Construction
6. Masonry Construction
7. Steel Framing Construction
8. Concrete Construction
9. Roofing
10. Glass and Glazing
11. Windows and Doors
12. Cladding Systems
13. Interior Finishes

E. Suggested Laboratory Tests

None