



WISCONSIN

UNIVERSITY OF WISCONSIN-MADISON

University of Wisconsin - Madison
College of Engineering [EGR]
Last Offered: 2015 Spring [1154]
Direct Link to this Syllabus :

<http://aefis.engr.wisc.edu/index.cfm/page/CourseAdmin.ViewABET?coursecatalogid=451&pdf=True>

1. **CIV ENGR 395, Materials for Constructed Facilities**
2. **Credits : 3 Contact Hours : 3.6**
3. **Textbook and Materials :**

Mamlouk, M.S. and J.P. Zaniwski, Materials for Civil and Construction Engineers, 3rd Edition, Pearson/Prentice Hall, 2011.

4. **Specific Course Information :**

- a. **Brief description of the content of the course (Course Catalog Description) :** Properties and tests of materials used in the initial construction or repair of facilities (including buildings, transportation systems, utility systems, and reinforced earth). Introduction to laboratory and field measurement techniques to assess material performance capabilities. Technical report preparation.
- b. **Pre-requisites or Co-requisites :** EMA 303 & 307
- c. **This is a Required course.**

- **Specific Goals for the Course :**

a. **Course Outcomes :**

1. It is expected that the student will be competent in:
2. 1. Applying knowledge of construction materials behavior creatively to select, specify, and monitor construction of civil engineering structures.
3. 2. Conducting and/or monitoring standardized testing protocols, interpreting test results, and preparing technical reports.
4. 3. Conducting forensic studies to determine role of material properties or construction methods in failures of structures.
5. 4. Teamwork and communication relevant to construction materials.

- **ABET Student Learning Outcomes :**

- (a) Ability to apply mathematics, science and engineering principles.
- (b) Ability to design and conduct experiments, analyze and interpret data.
- (c) Ability to design a system, component, or process to meet desired needs.
- (e) Ability to identify, formulate and solve engineering problems.
- (g) Ability to communicate effectively.
- (k) Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

- **Program Specific Student Outcomes :** (n) An ability to understand common failure mechanisms of a component, process, or system and their causes and prevention