

CE 5380-01 Course Information Fall 2015

Course Title:

Bridge Structures

Description:

Bridge Engineering is a broad field of study. The design of bridges is quite different than the design of buildings. Buildings can be complex structures with relatively basic loads. Bridges are typically simple structures, but with complex loading such as moving loads and fatigue. There are several different design specifications for buildings including the ACI and AISC Design Specifications. There is a single national design specifications for bridges entitled the AASHTO LRFD Bridge Design Specifications. It covers the design of concrete, steel, timber, foundations and seismic design. The AASHTO specifications are very significant, too much to cover in detail in one course. Therefore the course will focus on the fundamentals of bridge engineering. The course will cover the most important basic concepts of bridge engineering. It is assumed that students will have already learned the concepts of structural analysis, reinforced concrete design, and steel design. Prestressed Concrete Design is not a pre-requisite for this course.

Instructor:

Michael P. Culmo, P.E.
Vice President of Transportation and Structures
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Text: Required: AASHTO LRFD Bridge Design Specifications, Customary U.S. Units, Sixth Edition

Grading:

Assignments	50%
Exam 1	25%
Exam 2	25%

CE 5380 – 01: Bridge Structures
Course Schedule:

Week Number	Date	Topic
1	Sept. 3	Overview of Course Intro to AASHTO Specifications and Bridges
2	Sept. 10	Loads and Load Combinations Live Load Distribution
3	Sept. 17	Analysis Methods
4	Sept. 24	Extreme Events Seismic 1
5	Oct. 1	Seismic 2
6	Oct. 8	Design of Bridges for Wind Loads Wind Design for Construction
7	Oct. 15	Deck Design
8	Oct. 22	Mid-term Exam
	Oct. 29	Week off
9	Nov. 5	Design of Bridge Barrier for Vehicle Impacts Parapet & Railing Design including crash testing Deck Overhang
10	Nov. 12	Introduction to Girder Design – Steel and Concrete Composite Design
11	Nov. 19	Fatigue Design
	Nov. 26	Thanksgiving break – No Class
12	Dec. 3	Bearings and Expansion Joints
13	Dec. 10	Construction and Constructability Introduction to Accelerated Bridge Construction
14	Dec. 17	Final Exam

Student Information

Name: _____

Email address: _____

Daytime phone number: _____

Are you a full time grad. Student? _____

Part time grad. student? _____

Non- Degree student? _____

If you are not a full time student, are you employed? _____

Name of employer: _____

Your position: _____

Experience with bridge design: _____

Experience with the AASHTO LRFD Code: _____

What do you want to learn from this course: _____
