CE 106 Design and Planning of Civil Engineering Systems 2 Units

USC | SONNY ASTANI DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

ABET Course Syllabus

Course Information, Textbook and Supplementary Materials

Course Description:

This course will overview the history of civil engineering; provide an introduction to the synthesis and design of systems dependent upon civil engineering technology and the structuring, modeling, and simulation of such systems; discuss ethics in civil engineering; emphasize and promote good communication skills required of civil engineering graduates.

Required for: BSCE, BSCE Structural, and BSCE Building Science

Prerequisites and Co-requisites: None

Optional Textbooks:

Civil Engineering Practices in the 21st Century, Knowledge and Skills for Design and Management, by Grigg, Criswel, Fontane and Sillerm ASCE Press, 2001, ISBN 0-7844 0526-3

Civil Engineering: A Very Short Introduction, David Muir Wood, Oxford Univ. Press, ISBN 978-0-19-957863-4.

Reference: ASCE Civil Engineering Magazines, Engineering New Record

Topics Covered	Learning Outcomes
An overview of civil engineering disciplines	Students will be able to understand the following topics: 1. Overview of Engineering 2. Historical Perspective 3. Design of Structures and its Components 4. Construction Engineering 5. Transportation Systems 6. Water Resources 7. Environmental Engineering | Civil Engineering and Society

An introduction to technical report writing	8. The basic skills to prepare a technical report
The role of civil engineers in society and of professional ethics	9. The societal and ethical responsibilities of a civil engineer

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Lecture and Lab Schedule			
Lecture		**Lab**	
Sessions per Week	Duration per Session	Sessions per Week	Duration per Session
2	1.5 hours	n/a	

Relation of Course Objectives to Program

The Civil Engineering program is designed to teach beyond the technical content of the curriculum and prepare the students to utilize what they learn in a professional setting.

This course contributes to the program outcomes as outlined in the adjacent table.

Course Contribution to Program Outcomes *(a-k)*		✓ Key
f.	An understanding of professional and ethical responsibility.	✓
g.	An ability to communicate effectively.	✓
h.	The broad education necessary to understand the impact of engineering solutions in a global economic and environmental and societal context.	✓
i.	Recognition of the need for, and an ability to engage in life-long learning.	✓
j.	Knowledge of contemporary issues.	✓

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Revised: Fall 2014