

Course Description: Fundamentals of analysis and design of steel structures; structural elements; simple and eccentric connections; design project.

Capstone for: BSCE

Design Kernel for: BSCE Environmental

Required for: BSENE

Prerequisite: CE 453 Water Quality Control

Co-Requisite: None

Required Textbook: Water Supply and Sewerage, by Mcghee & Steel McGraw Hill, 1991 ISBN 00-70609381

Reference: none

Topics Covered	Learning Outcomes
Water supply and sewage treatment systems	<ol style="list-style-type: none"> 1. Hydraulics review and population prediction 2. Water wells as water source 3. Distribution reservoir and service storage 4. Water distribution network - Hardy Cross method 5. Firewater requirement and flow testing 6. Water hammer analysis 7. Pump station design and pump selection 8. Wastewater flow estimate and analysis 9. Storm runoff analysis - Rational method 10. Sewer system design - Combined vs. Separate system 11. Loads on buried pipe 12. Pipe selection and sewer appurtenances
Computer program applications	<ol style="list-style-type: none"> 13. Water supply network analysis - E-PLANET

CE 465**Water Supply and Sewerage System Design****3 Units**

USC | SONNY ASTANI DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

Lecture and Lab Schedule			
Lecture		Lab	
Sessions per Week	Duration per Session	Sessions per Week	Duration per Session
1	3 hours	n/a	

Relation of Course Objectives to Program Outcomes

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
c. An ability to design a system component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	✓
d. An ability to function on multi-disciplinary teams.	
f. An understanding of professional and ethical responsibility.	
j. Knowledge of contemporary issues.	

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