

ABET course syllabus (Water Supply Engineering)

1. Course number and name
CE 0931371: Water Supply Engineering.
2. Credits and contact hours
3 Credit Hours.
3. Instructor's name and contact information
Husam A. Abu Hajar, Assistant Professor of Civil Engineering.
Email: h.abuhajar@ju.edu
Office hours: 10 am – 12 pm (Su, Tu, Th), Civil Engineering Department, 2nd floor.
4. Text book, title, author, and year
 - “Water and Wastewater Engineering”, Davis, 1st Edition, 2010.
 - “Water Supply and Sewerage”, McGhee & Steel, Vol 6, 1991.
 - a. other supplemental materials*
 - Class notes and handouts.
5. Specific course information
 - a. brief description of the content of the course (catalog description)*
Principles of aqueous and inorganic chemistry, chemical equilibrium. Drinking water engineering: water consumption rate, design period, population estimation, sources of water, physical, chemical, and biological quality of water. Drinking water treatment: coagulation, flocculation, sedimentation, filtration, disinfection, and softening. Removal of taste and odor, water distribution networks.
 - b. prerequisites or co-requisites*
CE 0901361 Fluid Mechanics (prerequisite).
 - c. indicate whether a required, elective, or selected elective course in the program*
Required for Civil Engineering.
6. Specific goals for the course
 - a. specific outcomes of instruction:*
 - The student is expected to understand and apply water quality parameters in the characterization of different water streams.
 - The student is expected to understand and analyze different water treatment processes.
 - The student is expected to design a water supply network based on forecasted future population.
 - The student will be able to design water treatment plant units of operation.
 - b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.*
Course addresses ABET Student Outcome(s): a, c, e, and g, and k.

7. Brief list of topics to be covered
 - Introduction to water supply engineering.
 - Water supply networks.
 - Project design and population estimation.
 - Sedimentation and filtration.
 - Coagulation and flocculation.
 - Water softening.
 - Ion exchange.
 - Adsorption and aeration.
 - Disinfection.