Course number and name
ENGR 468: Applied Fluid Mechanics and Hydraulics

Credits and contact hours
3 credit hours; one 2-hr, 45-min lecture per week

Instructor’s or course coordinator’s name
Instructor: Dragomir Bogdanic, Instructor
Course coordinator: Ed Cheng, Associate Professor

Text book, title, author, and year

other supplemental materials
Additional references:

Specific course information
brief description of the content of the course (catalog description)
Fluid mechanics: incompressible flow to steady and transient flow problems in piping networks, turbo-machines, and open channels.

prerequisites or co-requisites
ENGR 304

indicate whether a required, elective, or selected elective course in the program
Elective for Civil Engineering; elective for Mechanical Engineering

Specific goals for the course
specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.
- The student will be able to specify appropriate pumps for piping systems based upon pump and system curves
- The student will be able to analyze and design pipe networks
- The student will be able to understand the characteristics and basic design considerations associated with turbo-machines
- The student will be able to analyze and design open channels
- The student will be able to carry out analysis of surface-water hydrology
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, k.

Brief list of topics to be covered
• Review of fluid mechanics
• Flow in closed conduits
• Multiple pipelines
• Pumps
• Flow in open channels
• Water surface profiles
• Hydraulic structures
• Surface-water hydrology