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

2. Credits and contact hours
   3 credit hours; two 75-minutes or three 50-minutes lecture per week.

3. Instructor’s or course coordinator’s name
   Instructor: Dragomir Bogdanic, Instructor
   Course coordinator: Elahe Enssani, Associate Professor

4. Text book, title, author, and year
   d. other supplemental materials
      Additional references:

5. Specific course information
   j. 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.
   k. prerequisites or co-requisites
      ENGR 304

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

6. Specific goals for the course
   e. 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

f. 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.

7. 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