1. **MEEG333** **Fluid Mechanics Lab**

2. **Credits 1** **Contact Hours 9**

3. **Fall 2016** Dr. Samuel D. Harris, Ph.D.; Office 330 Spencer

4. **Textbook** "Fluid Mechanics," by Frank White ISBN13: 9780073398273

Other Supplemental Materials: Lab Discussion notes and Lab Instructions for each laboratory exercise

5. **Specific course information**

   a. **Catalog Description:** Introduction to experimental and measurement techniques in fluid mechanics.
   (More details: Labs to support the class topics of hydrostatic pressure, fluid momentum, impact forces, Bernoulli equation applications, basic fluids measurement, conditions for laminar and turbulent flows as measured by the Reynolds Number.)

   b. **Corequisite:** MEEG331, Fluids Mechanics I.

   c. **Course is required.**

6. **Specific goals for the course**

   a. **Specific Outcomes of Instruction:** The goals of the laboratory exercises are to illustrate physical concepts and principles of Fluid Mechanics in coordination with the Lecture course MEEG331. You will learn basic experimental methods for fluid systems, to use experimental results as a basis for practical system analysis and design, and through reports to develop effective communication skills for technical information. You will also learn skills for acquiring data, data reduction, error analysis, and presentation or results.

   b. **Student Outcomes Addressed:**

      This course can cover Outcomes b, d, g; however, for Fall 2016, no outcomes were asked specifically from this course.

7. Brief list of topics to be covered

- Hydrostatic pressure
- Flow measurement devices
- Momentum and impact Force of a jet of fluid
- Orifice discharge and free jet flow
- The Reynolds Experiment - Laminar and Turbulent Flow
- Flow delta-P and the friction factor in a pipe