Instructor: Terry M. Barr, P.E., CFM
Phone: 979-575-6310
E-mail: tbarr@uta.edu
A mailbox is available in the CEE Department, Nedderman Hall, Room 417.

Instructor’s Availability: By appointment. Best time is 30 minutes before or after class.

Course Content: Basic concepts of open channel flow, applications of mass and energy conservation principles, numerical computations of flow profiles, design of open channels, and applications in flood control and storm water management. Course covers steady flow only.

Course Objectives: After the class, student should be able to:
- Apply principles of mass balance, energy, and momentum to open channels.
- Calculate the normal and critical depths in channels and understand the importance of these parameters in open flow.
- Qualitatively estimate flow profiles.
- Design open channels.
- Understand the behavior of commonly used hydraulic structures such as culverts, weirs, spillways, and energy dissipators.
- Use computational methods to analyze flow in open channels.

Prerequisite:
- Knowledge of basic fluids mechanics.
- Familiarity with programming, spreadsheets, or numerical methods.

Textbook

Supplemental Material:

*These Materials will either be provided by the instructor or a web link will be given.

Recommended Items:
- Scientific calculator
- Pencils, eraser, scale, triangle, etc.
- Engineering paper will be required for homework and in-class assignments.
Meeting Policy:
In the event that the instructor is delayed, the class shall wait 10 minutes before dismissing. Course assignments and material for which the student is responsible on the missed class session will be considered due at the start of the next scheduled meeting.

Attendance:
Attendance for all class sessions is expected, although it will only be recorded for the first few weeks of the semester as a check of the roster. For the majority of the semester attendance will not be taken. However, I hope that the discussion in class will be of sufficient benefit that class attendance will be directly correlated to test performance. Quizzes covering current material may be given throughout the course. Quizzes will not be announced in advance. Missed quizzes and missed homework will count as zero.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information.

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the Americans with Disabilities Act (ADA). All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Academic Integrity: It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. According to the UT System Regents' Rule 50101, §2.2, "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts."

Homework: Homework assignments will be given throughout the semester, and will generally be due one week after they are assigned. The completion of these assignments is an essential means of preparing the student for examinations. Homework effort is directly reflected in test performance. Therefore the majority of the individual homework assignments will not be
collected or graded. However, the student may choose to submit any current assignment for review and correction.

Throughout the semester a small number of homework assignments will be collected and graded. These will not be announced in advance. Homework scores will be included with quiz scores. Missed or late homework can not be made up without prior approval from the instructor or at the discretion of the instructor due to circumstances outside your control. All assignments that are submitted for review or collected for grading must be completed on standard engineering paper, or printed on computer paper. Begin each problem on a separate sheet of paper! One purpose of this course is to give the student experience in preparing professional papers. Therefore, the appearance of the work will be taken into consideration for grading. Identify your final answers by using a box or underlining the answer. If you draw plots, remember to use good engineering practice (i.e. label data points and axis, provide title and legend.) Illegible work will not be graded!

**Exam Policy:**
If you must miss an examination due to circumstances outside of your control, a makeup may possibly be arranged at the discretion of the instructor (only if you act promptly). Notify the instructor in advance when possible. No unexcused make-up exams will be given. If you miss an exam, you will receive a zero unless you made arrangement in advance with the instructor or you can demonstrate an emergency existed that you could not circumvent.

The exam and final will not be offered at any times other than that regularly scheduled. Exceptions may be allowed at the instructor's discretion, if accompanied by a medical report from a real doctor. For consideration of other absences, notify the instructor in advance.

Exams are closed book; however, a single handwritten sheet of paper with relevant formulas and other information is permitted. No solved problems are permitted on the sheet. The formula sheet shall be submitted with the exam upon completion.

The Final Exam is scheduled for Saturday, December 15, 2:00 to 4:30 pm.

**Semester Project Report:**
This course will include work in the form of a semester project using current industry-standard software (HEC-RAS) for open channel analysis. Each student will complete an individual semester project. Details of the project will be provided later in the semester.

**Assignments and examinations:**

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<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>Mid-Term Exam</td>
<td>25%</td>
<td>A</td>
<td>100 – 90%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
<td>B</td>
<td>89 – 80%</td>
</tr>
<tr>
<td>Class Project</td>
<td>25%</td>
<td>C</td>
<td>79 – 70%</td>
</tr>
<tr>
<td>Homework &amp; Quizzes</td>
<td>25%</td>
<td>D</td>
<td>69 – 60%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
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The instructor reserves the right to adjust the grade distribution. Any concerns about scores on individual assignments, tests or projects must be brought to the attention of the instructor within 7 days from the day that the score was returned to the student. After 7 days, scores are closed to discussion.
Electronic Communication Policy: The University of Texas at Arlington has adopted the University “MavMail” address as the sole official means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account. **Students are responsible for checking their MavMail regularly.** Information about activating and using MavMail is available at [http://www.uta.edu/oit/email/](http://www.uta.edu/oit/email/). There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington.

E-Mail Address:
You **MUST** provide a reliable e-mail address, which you will be responsible for checking on a regular basis. You are provided one by the University, but your choice of a reliable alternate is acceptable. Lost information due to missed e-mail communication is **YOUR** responsibility.

Laptops/PDAs/MP3 Players/Cell Phones/ etc.:  
The use of any electronic device, except an approved calculator, is not permitted during exams. Your exam will be collected and your grade will be a zero if you are caught using a non-approved electronic device. The use of phones and MP3 players is not permitted during lessons.

Food & Drink:
Food and Drink are permitted in class; however, please be considerate of other students and the instructor when partaking. Please dispose of trash properly.