CE 261 Open Channel Flow
Spring 2014

General Information

CE 261 Open Channel Flow
Mon, Wed, and Fri, 11:45 – 12:35 pm, Room 207 Votey

Instructor

Ibrahim N. Mohammed
Office: 23 Mansfield Ave., Room 208A. Tel: 802-656-7351
Email: Ibrahim.mohammed@uvm.edu
Office Hours: Mon, Wed 1 – 2 pm. You may send me email any time to ask a question or request a meeting outside these times. Also you may send me a message via Blackboard course webpage https://bb.uvm.edu/webapps/portal/frameset.jsp. Help on Blackboard should be directed to UVM computing helpline 802-656-2604.
Instructor web page: http://www.uvm.edu/~imohamme/
Class web page (updated during the course): http://www.uvm.edu/~imohamme/classes/CE261.html

Catalog Information

Application of the laws of fluid mechanics to flow in open channels; design of channels and transition structures; modeling; uniform and gradually-varied flows. Credits: 3
Prerequisite: CE 160. Hydraulics

Objectives

1. Form a good understanding of the basic physical principles that govern the way water flows in open channels,
2. Acquire analytical and mathematical skills needed to describe and predict open channel flow behavior using modern computational tools,
3. Effectively apply these principles and skills {objectives 1 & 2} to the engineering solution of open channel systems problems.

Topics

✓ Analysis of Open Channel Hydraulic Systems,
✓ Classification of Open Channel Flow,
✓ The concepts of specific energy and specific force,
✓ Uniform flow concepts and hydraulic resistance,
✓ Gradually varied flow concepts,
✓ Computation of gradually varied flow
✓ Channel Design,
✓ Sediment Transport,
✓ Introduction to HEC-RAS

Texts Required:

Supplementary reading:

Grading
- Grades will be based on a weighted average of results as follows:
  - Homework: 40%
  - Midterm exam: 25%
  - Final exam: 35%
- Final grades will use the following categories:
  - **A**: 95-100%
  - **A-**: 90-94%
  - **B+**: 85-89
  - **B**: 81-84%
  - **B-**: 75-80%
  - **C+**: 70-74%
  - **C**: 65-69%
  - **C-**: 60-64%
  - **D+**: 57-59%
  - **D**: 53-56%
  - **D-**: 50-52%
  - **F**: <50%
- Incomplete grades will not be given except under extenuating circumstances as allowed for by University policy. Incomplete grades will not be given for poor performance.
- Make up exams will only be given in cases of severe personal hardship or illness.
- Examinations will be a combination of a closed book portion testing knowledge of definitions and basic principles that I expect you to remember and an open book portion where reference to the text and other material will be necessary for solution of the problems.
Homework

Homework may be in the form of problem sets or independent study research papers. There will be homework assignments due every 1-2 weeks. Homework up to 1 week late, or the time a solution set is provided, whichever is sooner, will be accepted with 20% grade deduction. There will be a 50% deduction for home work received more than 1 week late or after a solution set has been provided.

Religious Observance

If your observance of a religious holiday will affect your ability to attend class or complete an assignment on time, please inform me of this with at least a week’s advance notice.

Disabilities

Students with ADA-documented physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations. Veterans may also be eligible for services. All accommodations are coordinated through the Disability Services at ACCESS in A-170 Living Learning Center; phone 802-656-7753. Please contact the Disability Services at ACCESS as early in the semester as possible. Alternate format materials (large print or digital) are available with advance notice. If you are a veteran or have a disability that requires accommodation (e.g. Braille) please contact the Disability Services at ACCESS using the contact information above, or the instructor so that the necessary arrangements can be made.