

## CVEN 4838/5838

### Part I: Hydrologic and Environmental Aspects of Dam Engineering

**Instructor: Dr. Edie Zagona**

Web Page: <http://animas.colorado.edu/~zagona> (login and password will be given at first class meeting)

All course info, assignments, reading materials will be available on the web page

#### **Tentative Schedule of Topics:**

T Aug 26	Introductions, Overview : To Dam or Not to Dam...
Th Aug 28	Basin yield and sizing a reservoir (hydrologic variability; risk; climate change;etc.)
T Sept 2	Flood Control and Operating Criteria
Th Sept 4	Spillways and Outlet Works
T Sept 9	Hydropower
Th Sept 11	Reservoir sedimentation
T Sept 16	Environmental Issues (Guest lecture: Prof. Diane McKnight)
Th Sept 18	Presentations of Case Studies (2 hour class 5pm – 7pm)
T Sept 23	Regulatory processes and review for exam
Th Sept 25	Exam

#### **Homework:**

**Reading Assignments – due** Aug 28, Sept 2, 9,16; be prepared to discuss

#1 Basin yield problem – due Sept 4

#2 Spillway Design and Operating Criteria problems – due Sept 11

#3 Hydropower and Sediment problems – due Sept 23

Assignments are due at class time.

**Case Studies:** Research a particular dam. Of interest are purposes of dam, cost/benefit analysis, environmental issues, technical challenges, societal challenges, hydrologic design considerations.

Web page will give list of suggested interesting dams.

Presentation: 20 minutes

Turn in: presentation and references

**Exam:** 1.25 hour exam (open book) – on lectures, readings, homework, case studies

#### **Grade:**

60% homework

5% class participation

15% Case Study

20% Exam

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100% (will constitute 33% of your entire course grade)

**For Graduate Credit:** Some additional work on each HW assignment

Read 1 journal article and write a summary (counts towards homework)

(web page will have list of suggested articles – no 2 students should review same article)

1 additional problem on Exam

**Office Hours**

My office is at the CINC Building, 1777 Exposition Dr.

See map at <http://cadswes.colorado.edu/maps/BoulderArea.html>

Office hours: Monday, Tuesday 2:00 – 4:00 BY APPT ONLY

I'll generally be available at these times, but please let me know if you are coming. Also, other times are possible by appointment.

Also, you may ask questions about homework and other issues by email or phone

[zagona@colorado.edu](mailto:zagona@colorado.edu)

303-492-2189

**Important Class Information**

- The class lectures (powerpoint presentations) are available on the web page by noon on the day of class – you can print out and take notes if you like. **YOU ARE RESPONSIBLE FOR WHAT IS SAID IN THE LECTURE IN ADDITION TO THE INFORMATION ON THE PPT.**
- Class discussions are important – your participation counts.
- Homework solutions will be posted on the web page soon after the homework is due. Hence late homework cannot be accepted.
- Email or phone any time if you have questions about assignments, etc. I'll respond when I can.

**Attendance Policy:**

You are responsible for the lectures and other information given in class and for turning in homework. Also, class participation is important. If you know in advance that you can't attend class, let me know.

**University Policies**

Please see class web page regarding information about

- Accommodations for disabilities
- Policy regarding absence due to religious observances
- Expectations for behavior in classroom
- Respect for differences of race, culture, religion, politics, sexual orientation, gender, nationality
- Discrimination and harassment
- Academic integrity

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and [www.Colorado.EDU/disabilityservices](http://www.Colorado.EDU/disabilityservices)

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Please let me know a week in advance if you need to be absent due to a religious observance. See full details at [http://www.colorado.edu/policies/fac\\_relig.html](http://www.colorado.edu/policies/fac_relig.html)

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at <http://www.colorado.edu/policies/classbehavior.html> and at [http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student\\_code](http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code)

The University of Colorado at Boulder policy on Discrimination and Harassment, the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships apply to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH, the above referenced policies and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council ([honor@colorado.edu](mailto:honor@colorado.edu); 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode/>