



GE F445 Design of Earth Dams and Embankments

3 Credits

Offered in Spring As Demand Warrants

Preliminary planning for design and construction of earth dams, site selection, reservoir assessment, foundation and other building materials, procedure for design of earth dams, design of abutment and spillway, estimation of volume of earthworks and storage capacities.

None.



**Department of Mining and Geological Engineering
Geological Engineering Program**

**GE 445; 3 Credits
(Technical Elective)**

**Design of Earth Dams and
Embankments**

Spring 2013

Catalog Description: Preliminary planning for design and construction of earth dams, site selection, reservoir assessment, foundation and other building materials, procedure for design of earth dams, design

for construction, excavation, slope stability issues and other geological engineering assessments.
Prerequisites: GE F420 or permission of instructor. (3+0)

Advanced Dam Engineering for Design, Construction and Rehabilitation,
(Editor) Robert B. Jansen, 1988, Van Nostrand Reinhold, NY. (ISBN: 0-442-24397-9)

LECTURES

(NOTE: Handouts will be selected from the reference texts listed under other recommended study)

<i>Week</i>	<i>Lecture (Reading Assignment)</i>	<i>Homework Assignment</i>
1	Introduction, Types of Dams and Auxiliary Structures Lessons from Notable Events (Chapter 2)	No Homework
2	Geotechnical questions associated with various geological environments (Chapter 4 + Handouts) Planning, conducting and reporting of geotechnical investigations (Handouts)	Homework 1: Dam site selection and geotechnical investigation
3	Site investigation techniques (Handouts)	Homework 2: Materials investigation from geologic and geotechnical perspective

FINAL TERM PAPER:

The final term paper will be a comprehensive design report on information that has been collated or estimated through the homework assignments.

My assessment of this part will include the following –

1. Your professional presentation of the problem.
2. Depth of research you have done to provide the recommendation.
3. ~~Your understanding of the key components and parameters of the system or the processes~~

4. How well you recognize geological engineering-related issues using desk-top analytical approach.
5. How well you have designed a plan to solve the engineering problem.
6. How well you provide a solution to the engineering problem.

COURSE POLICIES:

- Students are expected to read the material assigned each week prior to attending the lecture.
- If you need more information on the course syllabus and progress, please discuss with the instructor within the first two weeks of lecture.
- If you missed a class, it is your responsibility to update yourself with what was

- Extra Class may be offered as needed. Such classes will be offered in consultation with all students.
- **All Homework assignments should be submitted electronically ONLY.** Other

homework assignments may be added to those assigned in the schedule, as needed.

- Late submission of deliverables will not be accepted unless the student was sick and can produce proof of sickness, had loss of immediate family member, or was

BLACKBOARD INFORMATION:

1. The UAF Blackboard (Bb) will be used to distribute materials for this course, as needed.
2. The Bb can be accessed by <http://classes.uaf.edu/>.
3. You need your Usermin (MyUA) userid and password to access Bb.

5. Bb will be my means to communicate with you all after class hours for any information about the

course.

6. It is your responsibility to check the "ANNOUNCEMENT" section of the Bb on a regular basis.