116-UCCh. (mig)

FORMAT 2

Submit originals (including syllabus) and one copy and electronic version in Word format

5. COURSE REPEATABILITY:

Is this course repeatable for credit? YES [ ] NO [X]

Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time).

How many times may the course be repeated for credit? [ ] TIMES

If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course? [ ] CREDITS

6. CURRENT CATALOG DESCRIPTION AS IT APPEARS IN THE CATALOG: including dept., number, title and credits

GE F422 Unsaturated Soil Geoengineering
3 Credits
Offered As Demand Warrants

12. IMPACTS ON PROGRAMS/DEPTS:

What programs/departments will be affected by this proposed action?

Include information on the Programs/Departments

13. POSITIVE AND NEGATIVE IMPACTS

Please specify ***positive and negative*** *impacts on other courses, programs and departments resulting from the proposed action.*

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of WP

Note: The guidelines are online:

http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/uaf-syllabus-requirements/

Department of Mining and Geological Engineering
Geological Engineering Program

GE F422, 3.0 credits **Soil Physics** **Fall 2012**

2012-13 Catalog Description: Fundamentals of soil physics, including: soil texture, structure, size distribution, and water retention characteristics; flow of water through saturated and unsaturated soil; soil temperature and heat flow; infiltration, runoff, and evaporation. Processes relevant to active layer dynamics and permafrost are given due consideration. (Prerequisites: CHEM F105, CHEM F106, or permission of instructor) (2+3)

Texts: Hillel, D. (2004). *Introduction to Environmental Soil Physics*: Elsevier Academic Press, New York, New York.

Das, B. M. (2009). *Soil Mechanics Laboratory Manual*, 7th Ed.: Oxford University Press, New York, New York.

Course Objectives: 1) To understand the fundamental principles of soil, liquid, and gaseous phases of a soil, and their interactions; 2) To develop skills in solving typical soil physics problems, including heat flow and infiltration; 3) To develop skills in conducting laboratory testing on soils; 4) To develop technical writing skills.

Schedule: **Lecture** Monday and Wednesday, 11:45 am – 12:45 pm, DUCK 347
Lab Friday, 2:15 pm – 5:15 pm, DUCK 122

Office Hours: Monday, Wednesday 10:30 am – 11:30 am (or by appointment)

Instructor: Dr. Darrow (Office: 309 DUCK; mmdarrow@alaska.edu; 474-7303)

Grading Policy:

- Grades will NOT be curved. Grades will be based on the final percentage earned in the course, and grades will be

Course Policies:

Course Outcomes: This course is arranged towards meeting the educational outcomes set forth by the Department of Mining and Geological Engineering.

Learning Outcomes and *Performance Indicators*	Course Objective	Objective Evidence
1) Specifies necessary instruments to conduct an experiment	3	
2) Develops and/or follows experimental procedure	3	Laboratory
3) Uses appropriate graphs or tables to display and interpret results	3	exercises and summaries
4) Analyzes results to form a conclusion about the experiment	3, 4	
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.		