

Submit originals and one copy and electronic copy to **Governance/Faculty Senate Office**
See <http://www.uaf.edu/uafgov/faculty/cd> for a complete description of the rules governing curriculum & course changes.

CHANGE COURSE (MAJOR) and DROP COURSE PROPOSAL

SUBMITTED BY:

Department	Mining and Geological Engineering	College/School	College of Engineering and Mines
Prepared by	Dr. Debasmita Misra	Phone	907.474.5339
Email Contact	debu.misra@alaska.edu	Faculty Contact	Dr. Debasmita Misra

1. COURSE IDENTIFICATION:

Dept Course # No. of Credits

COURSE TITLE

2. ACTION DESIRED:

Change Course ☒ If Change, indicate below what change. Drop Course ☐

NUMBER	TITLE	DESCRIPTION
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PREQUISITES		FREQUENCY OF OFFERING
CREDITS (including credit distribution)		COURSE CLASSIFICATION
CROSS-LISTED	Dept. <input type="text"/>	(Requires approval of both departments and deans involved. Add lines at end of form for such signatures.)
STACKED (400/600)	Dept. <input type="text"/>	Course # <input type="text"/>
OTHER (please specify)	<input type="text"/>	

3. COURSE FORMAT

NOTE: Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council. Furthermore, any core course compressed to less than six weeks must be approved by the core review committee.

COURSE FORMAT: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ 6 weeks to full semester

OTHER FORMAT (specify all that apply)
Mode of delivery (specify lecture, field trips, labs, etc)

4. COURSE CLASSIFICATIONS: (undergraduate courses only. Use approved criteria found on Page 10 & 17 of the manual. If justification is needed, attach on separate sheet.)

H = Humanities ☐ S = Social Sciences ☐

Will this course be used to fulfill a requirement for the baccalaureate core? YES ☐ NO ☒

IF YES, check which core requirements it could be used to fulfill:

O = Oral Intensive, ☐ W = Writing Intensive, ☐ Natural Science, ☐
Format 6 also submitted ☐ Format 7 submitted ☐ Format 8 submitted ☐

5. COURSE REPEATABILITY:

Is this course repeatable for credit? YES ☐ NO ☒

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 F322 Engineering Sedimentology
3 Credits Offered Every Spring or As Demand Warrants

Sediment types, textures, sedimentary structures, and stratigraphy of sedimentary rocks; their origin through weathering, erosion, transportation, and deposition mechanics, and diagenesis; and engineering construction in sedimentary formations. *Prerequisites:* GE 261, PHYS 212X. (3+0)

7. COMPLETE CATALOG DESCRIPTION AS IT WILL APPEAR WITH THESE CHANGES: (Underline new wording strike through old wording and use complete catalog format including dept., number, title, credits and cross-listed and stacked.) PLEASE SUBMIT NEW COURSE SYLLABUS. For stacked courses the syllabus must clearly indicate differences in required work and evaluation for students at different levels.

GE F322 Engineering Sedimentology
3 Credits Offered Every Spring or As Demand Warrants

~~Sediment types, textures, sedimentary structures, and stratigraphy of sedimentary rocks; their origin through weathering, erosion, transportation, and deposition mechanics, and diagenesis; and engineering construction in sedimentary formations. *Prerequisites:* GE 261, PHYS 212X. (3+0)~~

GE F322 Erosion Mechanics and Conservation
3 Credits Offered Every Spring or As Demand Warrants

Engineering mechanics of water and wind erosion processes, types of geologic or anthropogenic induced erosion, application of engineering principles for design, management and control of erosion and engineering analysis of conservation structures. *Prerequisites:* ES 341 or permission of instructor. (3+0)

8. IS THIS COURSE CURRENTLY CROSS-LISTED?

YES/NO ☒ No

If Yes, DEPT

NUMBER

(Requires written notification of each department and dean involved. Attach a copy of written notification.)

9. GRADING SYSTEM: Specify only one

LETTER: ☒ X

PASS/FAIL: ☐

10. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

None.

11. LIBRARY COLLECTIONS

Have you contacted the library collection development officer (kljensen@alaska.edu, 474-6695) with regard to the adequacy of library/media collections, equipment, and services available for the proposed course? If so, give date of contact and resolution. If not, explain why not.

No ☒ X

Yes ☐

The prescribed textbook and other reference materials are currently available in the library

12. IMPACTS ON PROGRAMS/DEPTS:

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

Include information on the Programs/Departments contacted (e.g., email, memo)

None

13. POSITIVE AND NEGATIVE IMPACTS

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

The course will be a technical elective for the GE students.

There is no negative impact of the course.

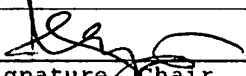
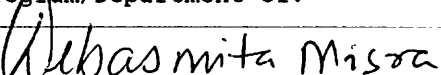
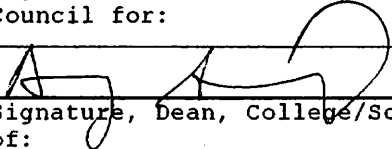
JUSTIFICATION FOR ACTION REQUESTED

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 UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you ask for a change in # of credits, explain why; are you increasing the amount of material covered in the class? If you drop a prerequisite, is it because the material is covered elsewhere? If course is changing to stacked (400/600), explain higher level of effort and performance required on part of students earning graduate credit. Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the course is not compromised as a result.

The course description is being modified as a **TECHNICAL ELECTIVE** to focus on erosion processes and conservation practices with an emphasis on engineering design and analysis of erosion control structures. Currently, such a course is not being offered in CEM. Besides, not many technical electives are offered regularly in the GE program as options for the students. GE students will benefit from this course in learning about principles of engineering design and analysis of erosion control practices. Students of Civil Engineering, Natural Resources Management, and Geology and Geophysics programs may benefit from this course.

The "Sedimentation" aspects of the course will be covered through GEOS 322. Hence, there is no need to continue with "Engineering Sedimentology" as a course. The Engineering aspects of Erosion & its control will be covered through this Technical Elective

APPROVALS:

	Date	10/4/10
Signature, Chair, Program/Department of:	M & GE	
	Date	10/7/10
Signature, Chair, College/School Curriculum Council for:	CEM	
	Date	10/11/10
Signature, Dean, College/School of:	CEM	
 	Date	

Signature of Provost (if applicable)

Offerings above the level of approved programs must be approved in advance by the Provost.

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE.

 	Date	
Signature, Chair, UAF Faculty Senate Curriculum Review Committee		

ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking)

		Date	
Signature, Chair, Program/Department of:			
		Date	
Signature, Chair, College/School Curriculum Council for:			
		Date	
Signature, Dean, College/School of:			

ATTACH COMPLETE SYLLABUS (as part of this application).

Note: The guidelines are online: <http://www.uaf.edu/uafgov/faculty/cd/syllabus.html>

The department and campus wide curriculum committees will review the syllabus to ensure that each of the items listed below are included. If items are missing or unclear, the proposed course change will be denied.

SYLLABUS CHECKLIST FOR ALL UAF COURSES

During the first week of class, instructors will distribute a course syllabus. Although modifications may be made throughout the semester, this document will contain the following information (as applicable to the discipline):

1. Course information:

☐ Title, ☐ number, ☐ credits, ☐ prerequisites, ☐ location, ☐ meeting time (make sure that contact hours are in line with credits).

2. Instructor (and if applicable, Teaching Assistant) information:

☐ Name, ☐ office location, ☐ office hours, ☐ telephone, ☐ email address.

3. Course readings/materials:

☐ Course textbook title, ☐ author, ☐ edition/publisher.
☐ Supplementary readings (indicate whether ☐ required or ☐ recommended) and
☐ any supplies required.

4. Course description:

☐ Content of the course and how it fits into the broader curriculum;
☐ Expected proficiencies required to undertake the course, if applicable.
☐ Inclusion of catalog description is *strongly* recommended, and
☐ Description in syllabus must be consistent with catalog course description.

5. ☐ Course Goals (general), and (see #6)

6. ☐ Student Learning Outcomes (more specific)

7. Instructional methods:

☐ Describe the teaching techniques (eg: lecture, case study, small group discussion, private instruction, studio instruction, values clarification, games, journal writing, use of Blackboard, audio/video conferencing, etc.).

8. Course calendar:

☐ A schedule of class topics and assignments must be included. Be specific so that it is clear that the instructor has thought this through and will not be making it up on the fly (e.g. it is not adequate to say "lab". Instead, give each lab a title that describes its content). You may call the outline Tentative or Work in Progress to allow for modifications during the semester.

9. Course policies:

☐ Specify course rules, including your policies on attendance, tardiness, class participation, make-up exams, and plagiarism/academic integrity.

10. Evaluation:

☐ Specify how students will be evaluated, ☐ what factors will be included, ☐ their relative value, and
☐ how they will be tabulated into grades (on a curve, absolute scores, etc.)

11. Support Services:

☐ Describe the student support services such as tutoring (local and/or regional) appropriate for the course.

12. Disabilities Services:

The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials.

☐ State that you will work with the Office of Disabilities Services (208 WHIT, 474-5655) to provide reasonable accommodation to students with disabilities."

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

GE 322 (Elective)

Erosion Mechanics and Conservation

Spring 2011

Offered Every Spring or As Demand Warrants

Catalog Description: Engineering mechanics of water and wind erosion processes, types of geologic or anthropogenic induced erosion, application of engineering principles for design, management and control of erosion and engineering analysis of conservation structures.

Prerequisites: *ES 341 or permission of instructor.* (3+0)

Text: 1. Soil and Water Conservation Engineering, 2006, Fifth Edition, Fangmeier et al., Thomson Delmar Learning, USA, ISBN: 1-4018-9749-5.
2. Class handouts as required

Course Objectives: To train students in mechanics of erosion processes, design and analysis of conservation structures and its applications in water reservoir construction, groundwater resource development, tunnel excavation, landslides, coal mine strata control, and buried structures in permafrost.

Schedule: Lecture -- TBA

Instructor: Debasmita Misra (Office: 307 DUCK, 907.474.5339, debasmita@alaska.edu)

Office Hours: As Posted or By Appointment

Grading Policy: 2 Hour Exams (100 points each), Homework (20 points each), and 1 Report & Presentation (100 points)

A >85%; 75% ≤ B < 85%; 65% ≤ C < 75%; 50% ≤ D < 65%; F <50%.

Topics Covered:

<i>Week</i>	<i>Topic</i>	<i>Assignments</i>
1	Introduction and Hydrologic Parameters Affecting Erosion	Chapter 1
2	Estimation of Hydrologic Processes Impacting Erosion	Chapters 3-4
3	Estimation of Hydrologic Processes Impacting Erosion	Chapters 5-6
4	Water Erosion and Control Practices	Chapter 7 and Class Handouts
5	Wind Erosion and Control Practices	Chapter 20 and Class Handouts
6	Terraces and Vegetated Waterways Conservation Structures	Chapters 8-9 and Class Handouts
7	<i>Spring Break</i>	
8	1 st Hour Exam Project Proposal Submission Channel Stabilization and Restoration	Chapter 10
9	Engineering Analysis – Construction Materials	Class Handouts
10	Engineering Analysis – Landslides	Class Handouts

11	Engineering Analysis – Earth Dam and Reservoir Siltation	Class Handouts
12	Engineering Analysis – Tunneling in Weak Rock	Class Handouts
13	Engineering Analysis – Groundwater Movement & Subsurface Drainage	Class Handouts
14	Engineering Analysis – Buried Structures Underlain by Permafrost	Class Handouts
15	Project Presentation and Report Submission 2 nd Hour Exam	

Course Policies:

- Students are expected to read the material assigned each week prior to attending the lecture.
- Homework will be assigned each week after a week's lecture, which is due a week from the date of assignment.
- Late submission of deliverables will not be accepted unless the student was sick and can produce proof of sickness, had loss of immediate family members, or was traveling on university business (e.g., athletes, professional presentations in conferences, etc.).
- Students are expected to be ethical in conduct, professional in demeanor and expected to adhere to the University of Alaska Honor Code (You may find this code at: http://www.uaf.edu/campus/campus/academics/regs6.html#Student_Conduct).

Physical and Learning Disabilities: If you have a physical or learning disability, please advise the course instructor of any special consideration necessary by the beginning of the second class so that attempts to accommodate you according to the American Disabilities Act can be made. Your request for accommodation must be accompanied by a written statement of your disability from an appropriate authority. For information on the disability services on campus, please visit the following web site: <http://www.uaf.edu/campus/disability.html>

Student Support Services: CEM computer technicians are located in the Duckering building room 153 (contact phone: 474-6146). They can help with issues related to software and hardware problems in the computer lab (310 Duckering). Blackboard support is available through UAF OIT helpdesk. The instructor is available for any other support required during the offering of this course. Ms. Jessica Potrikus, Office Manager of Mining and Geological Engineering Department is available for departmental support in Room 301 Duckering (474-7338).

Contribution to Professional Component: The course emphasizes engineering analysis of erosion and conservation practices and the applications of such knowledge in engineering projects.

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

Outcomes	Role of GE 322
(a) an ability to apply knowledge of mathematics, science, and engineering	The class lectures are designed to inspire students in comprehending problems related to erosion process, and conservation measures. Engineering analysis of conservation structures and their impact on erosion control in engineering projects will be assessed.
(g) an ability to communicate effectively.	The course requires a mini-report for each of the homework assignments. Students are required to present orally the term projects and written reports at the end of the semester.
(h) The broad education necessary to understand the impact of engineering solutions in a global and societal context	In the second half of the semester, analysis related to impact of erosion and conservation on engineering applications around the world and their effect on the communities nearby will be studied, and the possible solutions will be discussed.