Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus.
Geology & Geophysics

1. This request is submitted by the Department of

2. Course prefix, number and complete title of course: GEOL 633 - River Restoration

3. Catalog Course description (not to exceed 50 words): Geologic, geomorphic and geomechanical principles applied to the investigation, design, construction, and maintenance of river restoration projects

AS CORRECTED 8/May/09

4. Prerequisite(s): Geol 631 or Geog 626 or approval of instructor

Cross-listed with: NA

5. Is this a variable credit course? □ Yes ☑ No If yes, from _____ to _____

6. Is this a repeatable course? □ Yes ☑ No If yes, this course may be taken ______ times.
Will this course be repeated within the same semester? □ Yes ☑ No

7. Has this course been taught as a 489/689? ☑ Yes ☐ No If yes, how many times? _____ 1
Indicate the number of students enrolled for each academic period it was taught. 11

8. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)

   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

   MS and Ph.D programs in geology and water management and hydrological sciences

9. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments.
Attach approval letters.

10. Prefix Course # Title (excluding punctuation)

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<td>Lab</td>
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Approval recommended by:

Department Head - Type Name & Sign

Date

Chair, College Review Committee

Date

Dean of College

Date

Dean of College

Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services

Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu
Curricular Services – 12/08
GEOLOGY 633
River Restoration
Section 601
Fall 2009

Instructor: John R. Giardino
Office: Halbouty Building, Room 257
Office Phone: 845-3224; Home: 731-8050
Home Phone: 731-8050
E-Mail: rickg@tamu.edu
Office Hours by appointment
Class Hours: MWF 3:00 – 4:10 p.m.
Classroom: Halbouty Building, Room 174

COURSE OVERVIEW
River Restoration introduces students to the essentials of river activity and the common principles of engineering geology, engineering geomorphology, geomechanical sedimentation, hydraulics, restoration, and streambank erosion. Students will learn how to use this knowledge through the study and classification of various local streams. This course is a combination of both lecture and field application. This course will train the student to delineate stream types using the stream classification methods. Some of the topical exercises presented in the course are: mapping land forms, land types and valley types; mapping stream types on aerial photographs and topographic maps; field mapping of stream morphological variables; effects assessment and analysis; stream restoration methods.

GEOL 633: River Restoration is a lecture-seminar course with outside homework. The lectures will provide not only an understanding of the theoretical concepts, but also will integrate concepts with practical, applied solutions to real-world problems. Topics covered in the class include: Geomorphic Systems, Constructing the Geologic Report, Mapping, GPS and GIS, Aerial Photographs and Aerial Mapping, Fundamentals Principles of River Systems, Stream Classification, Geologic Characterization of Rivers, Assessment of Stream Conditions, and River Restoration Principles, Ethics and Serving as Expert Witness.

STUDENT LEARNING OUTCOMES
If a student attends all lectures, reads all assignments, and completes all projects and participates in the class, he/she should have a good understanding of engineering geomorphology. Specifically, the student should be able to:
1) articulate geologic systems;
2) formulate a systems analysis of geologic processes;
3) explain principles of river systems;
4) prepare a stream classification;
5) assemble a geologic characterization of rivers;
6) assess stream conditions;
7) appraise river restoration principles; and
8) discuss ethics and serving as an expert witness.
EXPECTATIONS OF THE PROFESSOR
Fair is fair. If you can expect me to not only to do my job but to do it well, then I can legitimately expect something for my efforts. I expect enthusiasm, dedication and leaping tall buildings in a ....... Seriously, I do expect enthusiasm, and that a student will attend all lectures and seminars, sit all exams, and complete all assigned projects on time. I also expect that the student will be prepared for each lecture and seminar.

CLASS STRUCTURE
GEOL 633: River Restoration class will meet twice a week (i.e., Monday and Wednesday) Students are expected to arrive at class on time and not to leave until the class is concluded.

RESEARCH PAPER
Each student is expected to demonstrate his/her ability to critically read and review the literature. This will be accomplished by a thorough investigation of the literature on a topic selected by the student and the professor.

AGGIE HONOR CODE
The Honor Code, based on the long-standing affirmation that An Aggie does not lie, cheat, or steal or tolerate those who do, is fundamental to the value of the A&M experience. Know the Code. Aggie Code of Honor: "An Aggie does not lie, cheat, or steal or tolerate those who do." http://www.tamu.edu/aggiehonor/

For additional information please visit: www.tamu.edu/aggiehonor

COPYRIGHT AND PLAGIARISM POLICY
All materials used in this class are copyrighted. These materials include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless permission is expressly granted.

As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated.

If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules,

http://student-rules.tamu.edu/, under the section "Scholastic Dishonesty."
EVALUATION

The performance of each student will be based upon participation, seminar presentation, homework, projects and paper. The format of the evaluation will be both objective and essay. Additionally, unannounced "pop quizzes" will be given based upon my assessment of the need to have such exams.

Grades for the course will be determined by the following:

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<th>Component</th>
<th>Points</th>
<th>Percentage</th>
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<tr>
<td>Seminar Presentation</td>
<td>250</td>
<td>20.8%</td>
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<tr>
<td>Projects/Homework</td>
<td>600</td>
<td>50%</td>
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<tr>
<td>Research Paper</td>
<td>250</td>
<td>20.8%</td>
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<tr>
<td>Pop quizzes</td>
<td>100</td>
<td>8.4%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1200</strong></td>
<td><strong>100%</strong></td>
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The minimum number of points required for each grade is given below:

- A = 90-100%
- B = 80-89%
- C = 70-79%
- D = 60-69%
- F = 0-59%

DISABLED STUDENT IDENTIFICATION

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Room B118 of Cain Hall. The phone number is 845-1637.

UNIVERSITY ABSENCE POLICY

Absence Policy: This class will follow the University’s policy for excused absences. For more information, please see Section 7 of the student rules: http://student-rules.tamu.edu

TEXTBOOKS AND CLASS MATERIALS

*Watershed Assessment of River Stability and Sediment Supply (WARSSS)*, Dave Rosgen, 2006, Wildland Hydrology


*The Reference Reach Field Book*, 2007, Wildland Hydrology

Various journal articles will be made available throughout the semester.

WEEKLY SCHEDULE

A weekly schedule for GEOL 633 is on the Homepage and will be sent to you via e-mail. It can also be accessed at: http://web.mac.com/rickgiardino1/Riverrestoration/Welcome.html