Proposal Form For Addition And Revision Of Courses

1. Proposing College / School: Engineering
   Department: Civil Engineering

2. Course Prefix and Number: CIVL 5450
   3. Effective Term: Spring 2012

   Abbreviated Title (30 characters or less): Erosion & Sediment Control

5. Requested Action:
   - Renumber a Course
   - Add a Course
   - Revise a Course

   Current Course Number:
   Proposed Course Number:
   Type of Revision:

6. Course Credit:
   Contact/Group Hours Scheduled Type (e.g.: Lab, Lecture, Practicum, Directed Study)
   Weekly or Credit Hours Anticipated Enrollment
   Maximum Hours (Repeatability): 3

<table>
<thead>
<tr>
<th>Contact/Group Hours</th>
<th>Scheduled Type</th>
<th>Weekly or Credit Hours</th>
<th>Anticipated Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Lecture</td>
<td>3</td>
<td>30</td>
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</tbody>
</table>

   Total Credit Hours: 3

7. Grading Type:
   - Regular (ABCDF)
   - Satisfactory/Unsatisfactory (S/U)
   - Audit

8. Prerequisites/Corequisites:
   Use "P:" to indicate a prerequisite, "C:" to indicate a corequisite, and "P/C:" to indicate a prerequisite with concurrency.
   P: CIVL 3310 and CIVL 3410

9. Restrictions: List specific restriction in space above.
   - College
   - Major
   - Standing
   - Degree

10. Course Description:
    (20 Words or Less; exactly as it should appear in the Bulletin)
    Process of erosion, sediment transport, and sedimentation along with strategies adopted to prevent and manage erosion on construction sites.

11. May Count Either:
    (Indicate if this particular course cannot be counted for credit in addition to another)
    CIVL 5450 or CIVL 6450

12. Affected Program(s):
    (Respond "N/A" if not included in any program; attach memorandum if more space is required)
    | Program Type (e.g.: minor, major, etc.) | Program Title (e.g.: MS in Chemistry, Performance Option, Minor in Art) | Requirement or Elective? (required or optional?) |
    |----------------------------------------|------------------------------------------------|-----------------------------------------------|
    | Major                                  | Civil Engineering                              | Elective                                      |

13. Overlapping or Duplication of Other Units' Offerings:
    (If course is included in any other degree program, is used as an elective frequently by other unit(s), or is in an area similar to that covered by another college/school, attach correspondence with relevant unit)
    - Applicable
    - Not Applicable
14. Justification:

As a result of new federal regulations establishing turbidity limits of effluent discharged from construction sites, preventing erosion and controlling sediment on construction sites needs to be considered by civil engineers. The topics covered in this class will provide knowledge to undergraduate students on how to effectively develop erosion and sediment control plans to prevent sediment from leaving a construction site and impairing natural resources.

(Include a concise, yet adequate rationale for the addition/revision of the course, citing accreditation, assessments (faculty, graduate, and/or external) where applicable)

15. Resources:

This course has been taught as a Civil Engineering Special Topics course. No additional resources are required.

(Indicate whether existing resources such as library materials, classroom/laboratory space, and faculty appointments are adequate to support the proposed addition/revision; if additional resources are required, indicate how such needs will be met, referencing the appropriate level of authorization -- i.e.: Dean -- where necessary; if no additional resources or shifting of resources will be necessary, respond "Not Applicable")

16. Student Learning Outcomes:

See attached: Course Objectives.

(State in measurable terms (reflective of course level) what students should be able to do when they have completed this course)

17. Course Content Outline:

See attached.

(Provide a comprehensive, week-by-week breakdown of course content, including assignment due dates)

18. Assignments / Projects:

See attached.

(List all quizzes, projects, reports, activities and other components of the course grade -- including a brief description of each assignment that clarifies its contribution to the course's learning objectives)

19. Rubric and Grading Scale:

See attached.

(List all components of the course grade -- including attendance and/or participation if relevant -- with point totals for each; indicate point totals and ranges or percentages for grading scale; for S/U grading, detail performance expectations for a passing grade)

20. Justification for Graduate Credit:

N/A

(Include a brief statement explaining how the course meets graduate educational standards (i.e.: rigorous standards for evaluation, development of critical thinking and analytical skills, etc.))

(Included below are standard statements regarding course policies. If necessary, a statement may be altered to reflect the academic policies of individual faculty members and/or the academic unit or department, provided that there is no conflict with the Tiger Cub, Faculty Handbook, or any existing university policy.)

POLICY STATEMENTS

Attendance: Although attendance is not required, students are expected to attend all classes, and will be held responsible for any content covered in the event of an absence.

Excused Absences: Students are granted excused absences from class for the following reasons: illness of the student or serious illness of a member of the student's immediate family, the death of a member of the student's immediate family, trips for student organizations sponsored by an academic unit, trips for university classes, trips for participation in intercollegiate athletic events, subpoena for a court appearance, and religious holidays. Students who wish to have an excused absence from class for any other reason must contact the instructor in advance of the absence to request permission. The instructor will weigh the merits of the request, and render a decision. When feasible, the student must notify the instructor prior to the occurrence of any excused absences, but in no case shall such notification occur more than one week after the absence. Appropriate documentation for all excused absences is required. Please see the Tiger Cub for more information on excused absences.

Make-Up Policy: Arrangement to make up a missed major examination (e.g., hour exams, mid-term exams) due to properly authorized excused absences must be initiated by the student within one week of the end of the period of the excused absence(s). Except in unusual circumstances, such as the continued absence of the student or the advent of university holidays, a make-up exam will take place within two weeks of the date that the student initiates arrangements for it. Except in extraordinary circumstances, no make-up exams will be arranged during the last three days before the final exam period begins.

Academic Honesty Policy: All portions of the Auburn University student academic honesty code (Title XII) found in the Tiger Cub will apply to university courses. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.
Disability Accommodations: Students who need special accommodations in class, as provided for by the Americans With Disabilities Act, should arrange for a confidential meeting with the instructor during office hours in the first week of classes (or as soon as possible if accommodations are needed immediately). The student must bring a copy of their Accommodation Letter and an Instructor Verification Form to the meeting. If the student does not have these forms, they should make an appointment with the Program for Students with Disabilities, 1288 Haley Center, 844-2088 (WTT).
CIVL 5450: Erosion & Sediment Control Technologies in Construction

Instructor: Dr. Wesley Zech
Associate Professor of Civil Engineering
233 Harbert Engineering Center

Office Hours: M, W 8–10:00 a.m. (or otherwise arranged)

Telephone: (334) 844–6272
Email: zechwes@eng.auburn.edu
Website: BlackBoard

Course Time & Place: T, R 14:00 – 15:15
Ramsey 301

Credit Hours: 3, Lecture
Prerequisites: CIVL 3310, CIVL 3410, CIVL 3510

Course Description: CIVL 5970|6970. EROSION AND SEDIMENT CONTROL TECHNOLOGIES IN CONSTRUCTION(3). LEC 3. Pr. CIVL 3310, CIVL 3410. Process of erosion, sediment transport, and sedimentation along with strategies adopted to prevent and manage erosion on construction sites.

Course Objectives:
This course will teach undergraduate students, graduate students, and industry participants about the various causes of construction site erosion, and the strategies that can be adopted to prevent it from occurring. The course will cover local and federal regulatory requirements, mechanisms affecting erosion including: rainfall, soil, and topographic factors contributing to erosion losses on urban construction sites. The use, design, and evaluation of erosion and sediment control devices will be discussed. At the successful completion of this course, the student will have the knowledge to prepare erosion and sediment control plans to satisfy regulatory requirements and the ability to design erosion and sediment controls to meet specific objectives based upon project site characteristics. Some guest lecturers from the industry and regulatory agencies will be invited for discussions on current practices.


Other References:

Course Requirements:
1. There will be two (2) in-class exams, five (5) home work assignments, an individual class project, and a final exam. All exams are closed book and closed notes.
2. Only models of calculators as specified by National Council of Examiners for Engineering and Surveying (NCEES) are permitted for use on exams. Refer to: http://www.ncees.org/
3. Devices with communication capabilities are prohibited during the examination period (e.g. computers, cell phones, cameras, PDAs, beepers, pagers, iPods, Zunes, cameras, computers, etc.). If devices are seen, they will be confiscated and returned at the end of the examination period.
4. Homework is to be submitted on the due dates, at the beginning of the lecture class. Late homework(s) will be accepted only in accordance with the Tiger Cub policies.
5. It is expected that each student will do all homeworks individually, although general discussion amongst colleagues is encouraged.
6. Class attendance is advised for an understanding of this course.
7. Students must review the assigned book chapters of the next lecture material before coming to class.
8. Text readings are course assignments and will be included in the homeworks and exams. All of the text reading material will not be covered in the class lecture(s).
Grading Policy:
1. Final course grade shall be determined as follows:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Semester Exams</td>
<td>40%</td>
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<tr>
<td>Exam 1</td>
<td>10%</td>
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<tr>
<td>Exam 2</td>
<td>10%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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<tr>
<td>Homework</td>
<td>10%</td>
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<tr>
<td>Project</td>
<td>10%</td>
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<tr>
<td>TOTAL</td>
<td>100%</td>
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</table>

2. All tests should be taken at the announced time and place. Students missing an examination should follow the Tiger Cub policies, before a make up examination is considered by the instructor.

3. All grade objections are to be submitted to the instructor in writing no later than one week after an assignment is returned to the class. Otherwise, grade objections will not be entertained. Grade objections should be very specific. Objections that simply ask that a problem be re-graded without providing detailed explanation will be rejected. It is required that the original exam or assignment that corresponds with the objection be submitted along with the written objection. All reviewed objections are final, and multiple objections for the same assignment by the same student are prohibited.

4. Final grading will be based on the following distribution:
   - 90 – 100 A
   - 80 – 89.9 B
   - 70 – 79.9 C
   - 60 – 69.9 D
   - ≤ 59.9 F

Extra Credit:
There will be no standalone extra credit assignments. Extra credit points (if any) will be available in the form of bonus questions on exams, homework assignments, or the final exam. Under no circumstances will any student be given an isolated extra credit assignment.

Academic Integrity:
The university has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion and representatives of their work, for the appropriate citation of sources, and for respect for others’ academic endeavors. By placing their name on academic work, students certify the originality of all work not otherwise identified by appropriate acknowledgments. Cheating in any form will not be tolerated and any involvement with academic dishonesty will be addressed severely.

Note:
In order to provide a favorable learning environment, students requiring special accommodations are expected to provide appropriate documentation to the instructor during the first week of the semester. If applicable, bring a memo from The Program for Students with Disabilities to this meeting. Accommodations should be arranged in advance.

Contingency Plans:
If normal class and/or lab activities are disrupted due to a high number of students experiencing illness or an emergency or crisis situation (e.g., a widespread H1N1 flu outbreak), the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials.
# CIVL 5450: Erosion & Sediment Control Technologies in Construction

<table>
<thead>
<tr>
<th>Date</th>
<th>Course Topics</th>
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<tbody>
<tr>
<td>Jan. 12</td>
<td>Introduction – Course Overview</td>
</tr>
<tr>
<td>Jan. 14</td>
<td>Nonpoint-Source Pollution</td>
</tr>
<tr>
<td>Jan. 19</td>
<td>Regulatory Requirements</td>
</tr>
<tr>
<td>Jan. 21</td>
<td>Regulatory Requirements (cont’d)</td>
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<td>Jan. 26</td>
<td>NPDES General Permits and ADEM Requirements</td>
</tr>
<tr>
<td>Jan. 28</td>
<td>Selection of Erosion and Sediment Controls</td>
</tr>
<tr>
<td>Feb. 2</td>
<td>Developing Plans for Erosion and Sediment Control</td>
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<tr>
<td>Feb. 4</td>
<td>Hydrology Analysis Techniques</td>
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<tr>
<td>Feb. 9</td>
<td>Hydrology Analysis Techniques (cont’d)</td>
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<tr>
<td>Feb. 11</td>
<td>Erosion, Sediment Transport, and Sedimentation Processes</td>
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<tr>
<td>Feb. 16</td>
<td>Erosion, Sediment Transport, and Sedimentation Processes (cont’d)</td>
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<tr>
<td>Feb. 18</td>
<td><strong>NO CLASS – IECA Annual Conference</strong></td>
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<tr>
<td>Feb. 23</td>
<td>Channel and Slope Stability</td>
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<tr>
<td>Feb. 25</td>
<td><strong>FIELD TRIP – T.B.A.</strong></td>
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<tr>
<td>Mar. 2</td>
<td>Channel and Slope Stability</td>
</tr>
<tr>
<td>Mar. 4</td>
<td><strong>EXAM # 1</strong></td>
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<tr>
<td>Mar. 9</td>
<td>Site Preparation and Surface Stabilization Measures</td>
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<tr>
<td>Mar. 11</td>
<td>Surface Stabilization Measures (cont’d)</td>
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<tr>
<td>Mar. 16</td>
<td><strong>NO CLASS – SPRING BREAK</strong></td>
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<tr>
<td>Mar. 18</td>
<td><strong>NO CLASS – SPRING BREAK</strong></td>
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<tr>
<td>Mar. 23</td>
<td>Runoff Conveyance</td>
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<td>Mar. 25</td>
<td>Sediment Control Measures</td>
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<tr>
<td>Mar. 30</td>
<td>Sediment Control Measures (cont’d)</td>
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<tr>
<td>Apr. 1</td>
<td>Design of Temporary Ponds for Sediment Control</td>
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<td>Apr. 6</td>
<td>Filter Fabric Barriers for Sediment Control</td>
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<td>Apr. 8</td>
<td>Stormwater Management</td>
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<tr>
<td>Apr. 13</td>
<td><strong>EXAM #2</strong></td>
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<td>Apr. 15</td>
<td>Stream Protection</td>
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<td>Apr. 20</td>
<td>Inspection and Maintenance of E&amp;SC Measures</td>
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<tr>
<td>Apr. 22</td>
<td>Performance Goals and Effectiveness of E&amp;SC Plans</td>
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<tr>
<td>Apr. 27</td>
<td>Project Presentations</td>
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<tr>
<td>Apr. 29</td>
<td>Project Presentations</td>
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<tr>
<td>May. 6</td>
<td><strong>FINAL EXAM, 16:00 – 18:30, Ramsay 301</strong></td>
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TERM PROJECT DESCRIPTION

TERM PROJECT: Site Evaluation and Development of an Erosion and Sediment Control Plan for a Local Construction Project

Task 1 - Site Selection:
Select a local, active construction site that can easily be observed several times a week to assess the erosion and sediment control practices used. The project site should be in relatively close proximity to where you live, work, or go to school. Select a project that is in its relatively early stages of development and will proceed for the next 12 to 15 weeks. Attempt to select a site that is at least 5 acres in size, preferably greater than 10 acres but less than a couple of hundred. Projects that will be performing significant site work (i.e. clearing and grubbing, grading, excavation) over the course of the semester are preferred. Do not select projects that have already been graded and that are nearing completion. It is also important to select a site that is easy to monitor from the project perimeter since you will not have authorization to access the site within the project limits. Eventually you will have to contact the project engineer on site in order to collect relevant project information. Initially each student will identify 1-primary site along with 2-backup sites that we can discuss in-class and assign final selections. Ideally I am seeking to have one project site per undergraduate group or graduate student. Prepare a preliminary description of all three potential projects including: general location, size, and status of current development to discuss by the second week of class. We will make final site assignments on the Thursday of that week, so come prepared.

Task 2 - Maintain an Inspection Diary of Assigned Site:
You will be required to maintain an inspection diary with photographs of the erosion and sediment control practices used throughout the project site. Items to include consist of erosion | sediment controls implemented, conditions, problems, maintenance requirements, stage of development, rain history, site characteristics (e.g. percent ground cover | vegetation, location of boundaries, streams, channels, stormwater sewer systems, etc.), current hydrologic conditions, weather conditions, and recommendations. It is a requirement to visit the project site at least one time during a rain event to document the hydrologic characteristics of the site (photographs are required to show evidence).

Task 3 - Development of a Comprehensive Erosion and Sediment Control Plan
Throughout the course, you will be preparing a comprehensive construction site erosion and sediment control plan using the state of Alabama Handbook format for your project site in stages as we cover the topics in class. You will also be required to present your plan in a 10-minute presentation during a class period at the end of the semester. It is also expected for students to discuss their project site during class discussions on related topics. The final erosion and sediment control plan and presentation are to be submitted via email in the following file name formats:

Word Document: ‘Last_Name_of_Students’_ESC_Plan_mm.dd.yr(f).docx

PowerPoint Presentation: ‘Last_Name_of_Students’_ESC_Plan_Presentation_mm.dd.yr(f).pptx