1. **Title:** CIVT 4401: Senior Design / Capstone For Engineering Technology Programs

2. **Submitting College:** COST

3. **Department(s) Generating the Proposal:** Engineering Technology and Mathematics

4. **Effective Date:** Fall semester 2011

5. **Brief Summary of Proposal:**
   In accordance with requirements from our professional accrediting body ABET, we are submitting a proposal to offer a senior design or capstone class for civil engineering technology, electronics engineering technology and computer science technology majors. The senior design course is three semester hour credits. Students are divided into several interdisciplinary teams based on their interest. Each team will form a company and write a proposal to the instructor in their area of interest. Students who worked on special projects during their internship can submit a proposal to continue working on that project given that they have a mentor from the industry. Once the proposal is approved by the instructor, students are set to do the technical design of the project. Each team is required to present their project orally as well as submit documents to support their design work. Students are evaluated by a team that consists of instructors as well as engineers from the industrial advisory board committee.

6. **Type of Proposal:** New course

7. **Graduate School Endorsement Status:** N/A

8. **Impact in Library Holdings:** none

9. **Impact on Existing Programs:** none

10. **Additional Resources Required:** none

11. **Approvals:**
   This change was approved by:
   
   ______ Department of Engineering Technology
   
   ______ College of Science & Technology
   
   ______ Curriculum & New Programs Committee
   
   ______ SSU Faculty Senate

   **Date**

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A. **Course Number:** CIVT 4401

B. **Course Title:** Senior Design / Capstone For Civil Engineering Technology

C. **Catalog Description:**
The senior design course is three semester hour credits. Students are divided into several teams based on their interest (Structural, Geotechnical, Environmental, or Highway). Each team will form a company and write a proposal to the instructor in their area of interest. Once the proposal is approved by the instructor, students are set to do the technical design of the project. Each team is required to present their project orally as well as submit documents to support their design work. Students are evaluated by a team that consists of instructors as well as engineers from the industrial advisory board committee.

D. **Rationale:** The accrediting body of the Civil Engineering Technology program requires that accredited programs implement a capstone course that is taken by all seniors majoring in the program.

E. **Impact on Library Holdings:**
   - Existing:
   - Additions:
   - Deletions:

F. **Credit Hours:** 3 Credit Hours

G. **Prerequisites:** Senior standing

H. **Syllabus:** Copy attached

I. **Similarity to, or Duplication of, Existing Courses:** N/A

J. **Textbook Selection (include title, author and ISBN)**

K. **Grading (letter grade, pass/fail, S/U etc.):** A - F

L. **Bibliography:**
Savannah State University
CIVT 4401 Senior Design

Course Description:
The senior design course is three semester hour credits. Students are divided into several teams based on their interest (Structural, Geotechnical, Environmental, or Highway). Each team will form a company and write a proposal to the instructor in their area of interest. Students who worked on special projects during their internship can submit a proposal to continue working on that project given that they have a mentor from the industry. Once the proposal is approved by the instructor, students are set to do the technical design of the project. Each team is required to present their project orally as well as submit documents to support their design work. Students are evaluated by a team that consists of instructors as well as engineers from the industrial advisory board committee.

Credit Hours:
3 credit hours

Prerequisites:
CIVT 3601K, CIVT 4101, CIVT 4201, CIVT 4111K, or CIVT 3401K

Course Objectives:
The objective of this course is to:
Provide students with experience working on real life civil engineering projects

Expected Student Learning Outcomes:
Upon the completion of this course students will be able to:
1. Form a company and a team to write proposals to win engineering design projects
2. Present their design orally as well as in writing using necessary engineering documentation

Core Competencies:
CIVT 4XXX addresses the following core competencies which are measured by the methods listed below the competency.

1st Core Competency: Mathematics
Measured by: Performance on the technical design of the project

2nd Core Competency: Technology
Measured by: Performance on generation of construction drawings using civil engineering practical software packages

3rd Core Competency: Critical Thinking and Communication
Measured by: Performance on project presentation

4th Core Competency: Writing
Measured by: Performance on project report

Required Text and Supplemental Readings: None

References: Professors; Practicing Engineering Professionals
**Course Requirements and Methods of Assessment:**
Individual students will be evaluated by their team members. Each member is required to write a confidential percentage of the individual member’s contributions to the project. The grade will be based on the average of the team member’s evaluation. For Example: Team 1 has gained 400 points in their project. One member was evaluated by his peers as contributing 50% effort. The grade of that member will be 50% \( \times 400 = 200 \) point which means a “D” grade in the course.

<table>
<thead>
<tr>
<th>Project*</th>
<th>400 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>400 points</td>
</tr>
</tbody>
</table>

*See project stages below

**Methods of Instruction:**
Hands-on are the primary means of instructing students in this course.

**Grading Policy:**

<table>
<thead>
<tr>
<th>Letter grade</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical score*</td>
<td>≥ 360 points</td>
<td>320-359</td>
<td>240-319</td>
<td>200-239</td>
<td>&lt; 200</td>
</tr>
</tbody>
</table>

*These scores serve as a guideline. They may be changed at the instructor’s discretion.

**Class and Lab Attendance Policy:**

**SSU Policy:**
Savannah State University endeavors to provide optimum conditions for student learning. Class attendance is, therefore, required of students to ensure that they will be exposed to the many classes, laboratories, and related experiences provided for their benefit. Extenuating circumstances may at times make it difficult for students to attend every class meeting. Students who are unable to attend a class should notify the professor in a timely manner and arrange the conditions under which any required work may be made up. Credit may or may not be awarded for any course if the number of absences exceeds the number of times that the class meets per week. Students who exceed the allowed number of absences in any course may receive a grade of “F” or be administratively withdrawn. Students who are withdrawn at or before mid-semester will receive a grade of “W”; students withdrawn after mid-semester will receive a grade of “WF”

**Instructor Policy:**
Attendance is mandatory. Each student is required to be on time. Any student who is absent for more than 3-hours during the semester will be given an “F” grade.

**Academic Honesty Policy:**
Academic honesty will be enforced according to the policy in the handbook. Refer to Student Affairs: Academic Irregularity

**Statement on Disabilities:**
If a student has a documented and or declared disability, reasonable accommodations will be provided if requested by the student according to the recommendations of the office of Counseling and Disability Services (CDS): (912) 356-2285 / (912) 303-1650 / (912) 356-2202

**NOTE:**
The instructor reserves the right to modify the syllabus at anytime but only in writing.
### Project Stages

<table>
<thead>
<tr>
<th>Stage Activities</th>
<th>Due Date</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Team Selection</strong>: Each team should have at least three students and designate a team leader and give the information to the instructor. Team leaders will keep a journal of all activities including meetings, interviews, information researched, and must be included in the submission of the final report</td>
<td><strong>/</strong>/**</td>
<td>10</td>
</tr>
<tr>
<td>2. <strong>Each Team</strong>: Form a company and decide on a name for their company; Design a letterhead for your company and give to instructor</td>
<td><strong>/</strong>/**</td>
<td>20</td>
</tr>
<tr>
<td>3. <strong>Each Team</strong>: Meet with the instructor/practitioner of their field of interest</td>
<td><strong>/</strong>/**</td>
<td>20</td>
</tr>
<tr>
<td>4. <strong>Each Team</strong>: Write a proposal to the instructor/practitioner to indicate their top two projects of interest. The proposal is a document describing the company, its personnel and expertise, and the approach it will take to the engineering design problem. You should submit the: a. Initial Draft reviewed by the Rewrite Connection, Whiting Hall, RM 125, and b. Final Proposal</td>
<td><strong>/</strong>/**</td>
<td>50</td>
</tr>
<tr>
<td>5. <strong>Team Plan</strong>: A document that outlines how the team intends to execute its work.</td>
<td><strong>/</strong>/**</td>
<td>10</td>
</tr>
<tr>
<td>6. <strong>Instructor Review</strong>: Of proposals and inform team leaders of the approved project</td>
<td><strong>/</strong>/**</td>
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<tr>
<td>7. <strong>Technical Design will Start</strong></td>
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<tr>
<td>8. <strong>Mid-term Progress due</strong>: An oral presentation summarizing the company's progress on the project to date</td>
<td><strong>/</strong>/**</td>
<td>90</td>
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<tr>
<td>9. <strong>Final Report is due</strong></td>
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<td>100</td>
</tr>
<tr>
<td>10. <strong>Presentation of the project</strong>&lt;br&gt;<em>See Presentation Evaluation Form</em></td>
<td><strong>/</strong>/**</td>
<td>100</td>
</tr>
</tbody>
</table>
PRESENTATION EVALUATION FORM

Presenter/Team Name:.......................................................................................... Date:..........................

Please evaluate the presenter through answering the questions below.
1 = Poor; 5 = Excellent

1. Was the presenter dressed professionally? ......................................................... 1 2 3 4 5

2. Did the presenter maintain eye contact with the audience? ................................. 1 2 3 4 5

3. Was technology used appropriately to enhance the presentation? ...................... 1 2 3 4 5

4. How do you rate the professionalism of the slides? ........................................... 1 2 3 4 5

5. How do you rate the flow of the presentation? .................................................... 1 2 3 4 5

6. Did the presenter speak clearly? ........................................................................... 1 2 3 4 5

7. Did the presenter communicate his/her ideas clearly? ....................................... 1 2 3 4 5

8. Did the presenter appear knowledgeable about his/her topic? ......................... 1 2 3 4 5

9. Was the presenter able to answer questions to the satisfaction of the audience? 1 2 3 4 5

10. Was the topic presented relates to the class objectives? .................................. 1 2 3 4 5

11. What is your overall rating of the presentation? ............................................... 1 2 3 4 5