1. **Department, number, and title of course**

   Department of Civil Engineering, CENG 5373, Environmental Management, (ENGR 5321)
   Course currently cross listed with TECH 5346 as ENGR 5321 and will remain cross listed.

2. **Required Course**

3. **Course (catalog) description**

   Federal and State environmental regulations; techniques for environmental control; risk
   assessment and management strategies; characterization of hazardous materials, spill control
   strategies and clean-up techniques.

4. **Prerequisite(s)**

   None

5. **Textbook(s) and/or other required material**

   None

6. **Course Objectives**

   - Provide students with an understanding of environmental regulations
   - Investigate the inclusion of science and engineering in the development of regulations
   - Apply strategies for hazardous waste management
   - Evaluate clean-up requirements as they apply to environmental pollution applications

7. **Topics Covered**

   - Federal and State laws for the protection of the environment
   - EPA Regulations for enforcement
   - Application of regulations to specific operations
   - Risk Characterization

8. **Class/laboratory schedule, i.e., number of sessions each week and duration of each session**

   LESSONS: 15 @ 150 min (1 att/wk)       LABS: NONE.
9. Contribution of course to meeting the professional component

3.0 Credit Hours (ES=3.0, ED=0)

Understanding of the laws and regulations in the environmental quality, students will be able to explain and appreciate the level of environmental quality as a result of effective regulations. The application of current regulations to the global community is also important as we understand the effects of third world countries in their improvement of their industrial base and the results of uncontrolled pollution releases to the environment.

10. Relationship of course to program outcomes

The course director’s assessment of how this course contributes to the civil engineering program outcomes is listed below. The following scale is used:

1=No Contribution; 2=Small Contribution; 3=Average Contribution; 4=Large Contribution; 5=Very Large Contribution

<table>
<thead>
<tr>
<th>CIVIL ENGINEERING PROGRAM OUTCOMES</th>
<th>Course Director Assessment</th>
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</thead>
<tbody>
<tr>
<td>Students who qualify for graduation with a civil engineering masters will demonstrate:</td>
<td></td>
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<tr>
<td>Have developed specialized knowledge in civil engineering beyond that normally expected of undergraduates preparing them for advanced professional practice.</td>
<td>3</td>
</tr>
<tr>
<td>When conducting graduate research, have generated new knowledge and engineering methods to serve the State, the Nation, and the global community.</td>
<td>1</td>
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</tbody>
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11. Person(s) who prepared this description and date of preparation

Dr. J. Torey Nalbone, CIH, Associate Professor, 25 October 2007.