Course Assessment Summary

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<th>Course Number: CE 478/678</th>
<th>Semester Offered: Spring 2007</th>
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<tr>
<td>Course Name: Water Quality Management</td>
<td>Instructor: Achintya N. Bezbaruah</td>
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**Assessment Procedures and Tools Used:** ABET objective A, C, E, G, H, J, and K were set. It was decided to put additional emphasis on C, E, and K. However, students were tested for all the objectives. Different tools were tried in the assessment process including: (1) Homework Assignments, (2) In-class Tests/Exams, (3) Take-home Tests/Exams, (4) Unannounced/sudden Quizzes, (5) Project Work, and (6) Final Examination. Homework Assignment included problem solving, journal paper review, and computer modeling. Both in-class and take-home tests involved critical thinking, reading reference books, and browsing the internet. The quizzes were either multiple choice or involved writing one/two word answers. The project work was so planned that it covers as many ABET objectives (C, J, G, H, and K) as possible.

**Summary of Major Findings:**

**Strengths:** (1) Inductive teaching techniques were tried and found to be very effective. (2) Students did a very good job in the project work and subsequent presentations.

**Weaknesses:** (1) Lack of a recommended textbook sometimes confused the students. (2) Project work should have involved better interpersonal interactions. Students were found to be lacking in this important skill.

**Closing the Loop:** (Based on results of course assessment from the previous round, indicate changes made:

(1) Students from Fall 2005 reported that textbook used in the subject was not adequate and at times outdated. In Spring 2007, no formal textbook was recommended rather six reference books were used to cover the topics. Journal articles were also used to bring in the most recent developments in the area. (2) In Fall 2005, design component in the course was not extensive. In Spring 2007, process and component design was introduced through inductive methods (assignments and project work). Students were asked to write computer programs on specific design problems and asked to exchange notes with each other using the Blackboard in addition to stipulated class presentations. (3) Some ‘real world’ problems were introduced in Fall 2005 and students responded very positively to those. Students felt that more such problems could have been introduced. In Spring 2007, a number of real world problems were introduced in consultation with the field engineers/managers at URS Corporation (Omaha). More computer models were introduced and students worked on specific problems using these tools.