Please fill in all information. Required signatures are on page two of this form. Please return to:
Academic Affairs Committee, Office of the Provost, Anderson Hall, 2nd Floor.

<table>
<thead>
<tr>
<th>Contact Person: Jeff Birmeister</th>
<th>Phone: 446-2370</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: 9/18/03</td>
<td>School or College: Engineering</td>
</tr>
<tr>
<td>Department: Mechanical</td>
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<tr>
<td>Proposed Course #: ENGR 145</td>
<td>Title: Senior Project</td>
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<tr>
<td>Units: 4</td>
<td>Enrollment/Expected Enrollment: 15-20</td>
</tr>
<tr>
<td>Grade Option: A-F</td>
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<tr>
<td>Prerequisites: Permission of the Instructor</td>
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</table>

Catalog description: Students apply basic sciences, mathematics and engineering topics to meet a stated objective; students will establish design objectives and criteria analyze solution alternatives, synthesize a problem, implement a solution, then evaluate design performance. Design documentation and demonstration are required. Includes both written and oral reports and presentations. Permission of the instructor.

Please attach syllabus.

What are the reasons for the new course (e.g., student needs, major, etc.):
A "senior design" course is the capstone course to any engineering program.

If approved, when will this be implemented? Spring 05

What is the anticipated impact on resources (e.g., Faculty, funds, library materials etc.):
Existing Bioengineering Faculty can cover the course using existing funds, facilities, and library materials.

Describe any special facilities, furnishings, or technology needs. List software needs, if any.
Computer labs maintained by the SOECS will be utilized.

SEP 10 2003
Registrar
APPROVAL PROCESS

Please obtain all signatures before submitting to Academic Affairs Committee. Please acquire signatures in the order in which they are listed below.

1. Action by department requesting addition/change:
   Approved by: [Signature] Date: 9/18/03

2. Action by the Curriculum and/or Graduate Studies Committee of the School/College:
   Approved by: [Signature] Date: 9-18-03

3. Action by the Dean of the School/College:
   Approved by: [Signature] Date: 9-18-03

4. Action by the General Education Committee (as appropriate):
   Approved by: [Signature] Date: 

5. Action by the Dean of the Library:
   Approved by: [Signature] Date: 10-9-03

6. Action by the Director of Educational Technology Services (if computer lab needed):
   Approved by: [Signature] Date: 

7. Action by the Graduate Studies Committee (as appropriate):
   Approved by: [Signature] Date: 

8. Action by the Registrar (to check course number, etc.):
   Approved by: [Signature] Date: 9-26-03

9. Action by the Academic Affairs Committee:
   Approved by: Date: 

After approval by the Academic Affairs Committee, information regarding new, revised, or deleted courses is sent to the Registrar for listing in or modifying the catalog.

Form revised 9/4/03
BENG 195. Senior Project (4)

Catalog description:
Students apply basic sciences, mathematics and engineering topics to meet a stated objective; students will establish design objectives and criteria, analyze solution alternatives, synthesize a problem, implement a solution, then evaluate design performance. Design documentation and demonstration are required. Includes both written and oral reports and presentations. Permission of the instructor.

What are the reasons for the new course (e.g., student needs, major, etc.)?
A “senior design” course is the capstone course to any engineering program.

What is the anticipated impact on resources (e.g., Faculty, funds, facilities, library materials, etc.)?
Existing Bioengineering Faculty can cover the course using existing funds, facilities, and library materials.

Will university computer labs be needed? If so, what software will be needed?
Computer labs maintained by the School of Engineering and Computer Science will be utilized.
Proposed Syllabus - BENG 195 - Senior Project - 9/18/03

Spring Semester

The project and meeting times will be determined by the faculty advisor. The deliverables will include:

1. At the end of the semester, the design teams must prepare the following:
   a) written document detailing the design solution
   b) oral presentation with visuals
   c) poster
2. Each student must maintain a design.
3. The instructor serves as mentor for the team.
4. A team manager will be elected by team members.
5. Periodic meetings between students and instructor are expected. The frequency of meetings will be at least every week (or as frequently as the team desires) with design notebook evaluation every two weeks. In addition summaries will be due approximately every three weeks/member.
6. The grading policy for the students in the section is determined by the instructor. The individual contribution will be evaluated based on design notebooks and summaries. However, both the mid term status report and final presentations will be a team grade, i.e. each member will receive the same grade.
7. A mid term status report from each design team will be held.
8. The final presentations will be held and will consist of 30 minute presentations with 10-15 minutes for questions.
9. Outside evaluators will be present for the final presentations as well as Pacific engineering faculty.