New Course Request

Check Appropriate Boxes: Undergraduate credit [✓]  Graduate credit [ ]  Professional credit [ ]

1. School/Division: School of Engineering and Technology  2. Academic Subject Code: ECE
3. Course Number: 487  (must be cleared with University Enrollment Services)  4. Instructor: 
5. Course Title: Senior Design I
   Recommended Abbreviation (Optional): Senior Design I (Limited to 32 Characters including spaces)
6. First time this course is to be offered (Semester/Year): Fall 2008
7. Credit Hours: Fixed at 1 or Variable from _________ to _________
8. Is this course to be graded S-F (only)? Yes [✓]  No [ ]
9. Is variable title approval being requested? Yes [ ]  No [✓]
10. Course description (not to exceed 50 words) for Bulletin publication:
    P: Senior Standing and intent to graduate within 2 semesters. A real-life experience in
    engineering problem solving in a group setting from identification, planning and execution
    to professional-quality written and oral presentations. This is the first semester of a
    two semester course sequence.

11. Lecture Contact Hours: Fixed at 1 or Variable from _________ to _________
12. Non-Lecture Contact Hours: Fixed at 0 or Variable from _________ to _________
13. Estimated enrollment: 25 of which 0 percent are expected to be graduate students.
14. Frequency of scheduling: Spring/Fall  Will this course be required for majors? Yes _________
15. Justification for new course: Needed to create a two semester senior design course in ECE.
16. Are the necessary reading materials currently available in the appropriate library? Yes _________
17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other
    materials.
18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is
    necessary, desirable, or unimportant.
19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be
    overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments
    directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus
    consulted.

Submitted by:

[Signature]  Date 3/20/2008
Department Chairman/Division Director

Approved by:

[Signature]  Date 4/6/08
Dean

Date
Dean of Graduate School (when required)

Date
Chancellor/Vice-President

Date
University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining
four copies and attachments to the Campus Chancellor or Vice-President.

University Enrollment Services Final—White; Chancellor/Vice-President—Blue; School/Division—Yellow;
Department/Division—Pink; University Enrollment Services Advance—White
PURDUE SCHOOL OF ENGINEERING & TECHNOLOGY
COURSE OUTCOMES AND ASSESSMENT DATA SHEET

This is an internal document to identify and record expected outcomes and anticipated assessment strategies for all courses taught within the School of Engineering and Technology. Submission of this form, as noted below, is required and must accompany all new course and course change requests. Copies of this form should also be retained within the department and kept on file with the outline or syllabus for each course.

Course Number: 487  Course Title: **Senior Design I**

**Procedure:**

1. First, identify all instructional outcomes expected for this course, and then select all ABET outcomes which are consistent with those anticipated objectives from TABLE 1 below.

**TABLE 1 - ABET OUTCOMES**

<table>
<thead>
<tr>
<th>ENGGINEERING - EAC Criteria #3</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>An ability to apply knowledge of mathematics, science and engineering.</td>
<td>3</td>
</tr>
<tr>
<td>An ability to design and construct experiments as well as to analyze and interpret data.</td>
<td>2</td>
</tr>
<tr>
<td>An ability to design a system, component, or process to meet desired needs.</td>
<td>4</td>
</tr>
<tr>
<td>An ability to function on multi-disciplinary teams.</td>
<td>6</td>
</tr>
<tr>
<td>An ability to identify, formulate and solve engineering problems.</td>
<td>0</td>
</tr>
<tr>
<td>An understanding of professional and ethical responsibility.</td>
<td>1</td>
</tr>
<tr>
<td>An ability to communicate effectively.</td>
<td>0</td>
</tr>
<tr>
<td>The broad education necessary to understand the impact of engineering solutions in global societal context.</td>
<td>h</td>
</tr>
<tr>
<td>A recognition of the need for and an ability to engage in life-long learning.</td>
<td>i</td>
</tr>
<tr>
<td>A knowledge of contemporary issues.</td>
<td>j</td>
</tr>
<tr>
<td>An ability to use the techniques, skill and modern engineering tools necessary for engineering practice.</td>
<td>k</td>
</tr>
</tbody>
</table>

2. Subsets for each of the six IUPUI Principles of Undergraduate Learning (PUL) are given on the reverse side in TABLE 2. Using a number corresponding to each ABET outcome identified from TABLE 1 above to select a column, place a “V” or “X” mark in the applicable TABLE 2 row(s) cell for each PUL. Courses will often address multiple ABET outcomes and ABET outcomes frequently will overlap more than one PUL subset. Thus, it is expected completed data sheets may contain marks in several cells thereby indicating the course simultaneously satisfies multiple Principles of Undergraduate Learning while fulfilling its intended ABET objective(s).

3. After completing TABLE 2, briefly define or explain how the course outcomes or objectives will be evaluated within the context of the departmental assessment program in the space below:

A Course Outcomes Survey will be completed by both students and faculty. Changes made based on survey. Rubrics used to grade presentations and final papers.

Submitted by: **Barrett C. Stoddard**  Date: 3/19/08
**TABLE 2 - MATRIX OF EXPECTED COURSE OUTCOMES**

*(Suggestion - while completing Table 2, place a copy of the ABET outcomes from Table 1 along side for easy cross referencing.)*

<table>
<thead>
<tr>
<th>PRINCIPLES OF UNDERGRADUATE LEARNING - &quot;Require All Students to Demonstrate An Ability to&quot;</th>
<th>ENGINEERING OUTCOMES - EAC CRITERIA #3: items (a) to (k)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(a) - Express ideas and facts effectively in written formats</td>
<td></td>
</tr>
<tr>
<td>1(b) - Comprehend, interpret, and analyze texts</td>
<td>✓</td>
</tr>
<tr>
<td>1(c) - Communicate orally in one-on-one and group settings</td>
<td>✓</td>
</tr>
<tr>
<td>1(d) - Solve problems that are quantitative in nature</td>
<td>✓</td>
</tr>
<tr>
<td>1(e) - Make efficient use of information resources and technology for personal and professional needs</td>
<td>✓</td>
</tr>
<tr>
<td>2(a) - Analyze complex issues and make informed decisions</td>
<td>✓</td>
</tr>
<tr>
<td>2(b) - Synthesize information in order to arrive at reasoned conclusions</td>
<td>✓</td>
</tr>
<tr>
<td>2(c) - Evaluate the logic, validity, and relevance of data</td>
<td>✓</td>
</tr>
<tr>
<td>2(d) - Solve challenging problems</td>
<td>✓</td>
</tr>
<tr>
<td>2(e) - Use knowledge and understanding to generate and explore new questions</td>
<td>✓</td>
</tr>
<tr>
<td>3(a) - Apply knowledge to enhance personal lives</td>
<td>✓</td>
</tr>
<tr>
<td>3(b) - Apply knowledge to meet professional standards and competencies</td>
<td>✓</td>
</tr>
<tr>
<td>3(c) - Apply knowledge to further the goals of society</td>
<td>✓</td>
</tr>
<tr>
<td>4(a) - Demonstrate substantial knowledge and understanding of at least one field of study</td>
<td>✓</td>
</tr>
<tr>
<td>4(b) - Compare and contrast approaches to knowledge in different disciplines</td>
<td>✓</td>
</tr>
<tr>
<td>4(c) - Modify their approach to an issue or problem based on the contexts and requirements of particular situations</td>
<td>✓</td>
</tr>
<tr>
<td>5(a) - Compare and contrast the range of diversity and universality in human history, societies, and ways of life</td>
<td>✓</td>
</tr>
<tr>
<td>5(b) - Analyze and understand the interconnectedness of global and local concerns</td>
<td>✓</td>
</tr>
<tr>
<td>5(c) - Operate with civility in a complex social world</td>
<td>✓</td>
</tr>
<tr>
<td>6(a) - Make informed and principles choices regarding conflicting situations in their personal and public lives and to foresee the consequences of these choices</td>
<td>✓</td>
</tr>
<tr>
<td>6(b) - Recognize the importance of aesthetics in their personal lives and to society</td>
<td>✓</td>
</tr>
</tbody>
</table>
Purdue University
Request for Addition, Expiration, or Revision of an Undergraduate Course (100-400 Level)

Department: Electrical and Computer Engineering
Effective Session: Fall 2008

Instructions: Please check the items below which describe the purpose of this request.

- New course with supporting documents
- Add existing course offered at another campus
- Expiration of a course
- Change in course number
- Change in course title
- Change in course credit type
- Change in course attributes (department head signature only)
- Change in instructional hours
- Change in course description
- Change in course requisites
- Change in semesters offered (department head signature only)
- Transfer from one department to another

Proposed:
- Subject Abbreviation: ECE
- Course Number: 487
- Long Title: Senior Design I
- Short Title: Senior Design I

Existing:
- Subject Abbreviation
- Course Number
- Long Title
- Short Title

Terms Offered:
- Check all that apply:
  - Summer
  - Fall
  - Spring

Campus(es) Involved:
- Calumet
- Con Ed
- Tech Statewide
- Ft. Wayne
- Indianapolis

Credit Type:
1. Fixed Credit: Cr. Hrs.
2. Non-Variable Credit Range:
   - Minimum Cr. Hrs.
   - Maximum Cr. Hrs.

Credit Type:
1. Pass/No Pass Only
2. Satisfactory/Unsatisfactory Only
3. Repeatable
4. Maximum Repeatable Credit:

Equivalents:
- Yes
- No

Instructional Type:
- Lecture
- Practical
- Presentation
- Laboratory
- Lab Prep
- Studio
- Distance
- Clinic
- Experiential
- Research
- Ind. Study
- Prac/Observ

Course Attributes:
- 1. Pass/No Pass Only
- 2. Satisfactory/Unsatisfactory Only
- 3. Repeatable
- 4. Credit by Examination
- 5. Designator Required
- 6. Special Fees
- 7. Registration Approval Type
- 8. Variable Title
- 9. Remedial
- 10. Honors
- 11. Full Time Privilege
- 12. Off Campus Experience

Course Description (Include Requisites):

P: Senior Standing and intent to graduate within 2 semesters. A real-life experience in engineering problem solving in a group setting from identification, planning and execution to professional-quality written and oral presentations. This is the first semester of a two semester course sequence.

Calumet Department Head: Date
Calumet School Dean: Date

Ft. Wayne Department Head: Date
Ft. Wayne School Dean: Date

Indianapolis Department Head: Date
Indianapolis School Dean: Date

North Central Department Head: Date
North Central Chancellor: Date

West Lafayette Department Head: Date
West Lafayette College/School Dean: Date
West Lafayette Registrar: Date

Office of the Registrar