<table>
<thead>
<tr>
<th>Required Course:</th>
<th>ECE 48800 Senior Design II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit and contact hours:</td>
<td>Credit 2. Class 2.</td>
</tr>
<tr>
<td>2014-16 IUPUI Campus Bulletin description:</td>
<td>ECE 48800 Senior Design II (2 cr.) P: ECE 48700. 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 second semester of a two semester course sequence.</td>
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<tr>
<td>Prerequisite or corequisite:</td>
<td>Senior standing and intent to graduate within 1 semester1.</td>
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<tr>
<td>Prerequisites by topic:</td>
<td>None</td>
</tr>
<tr>
<td>Textbook:</td>
<td>None</td>
</tr>
<tr>
<td>Coordinator:</td>
<td>Stanley Chien, Professor of Electrical and Computer Engineering</td>
</tr>
<tr>
<td>Goals:</td>
<td>A real-life experience of engineering problem solving in a group setting from identification, planning and execution to professional-quality written and oral presentation. This is the second semester of a two semester course sequence.</td>
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| Outcomes: | Upon successful completion of the course, students should be able to  
1. Identify and formulate the design problem, including bringing precision to the problem statement through a requirements specification. [c]  
2. Use library resources and Internet resources to find information necessary for the project. [c]  
3. Use critical thinking in its design process. [e]  
4. Use creative approaches when necessary to obtain project objectives. [c]  
5. Conduct design using an organized design process, including planning, literature search, requirements specification, consideration of alternative approaches, determination of strategies, and design reviews [c]  
6. Conduct design using design principles. [a, c]  
7. Apply engineering principles, mathematics, and science in engineering design, not including methods, tools, and techniques. [a]  
8. Apply technical knowledge to design, including methods, tools, and techniques. [c, k]  
9. Analyze and interpret data. [b]  
10. Determine ways to test a design to determine its functionality (success of the design). [b]  
11. Value quality workmanship into the project, including neatness of the assemblies, neatness of the computer screen displays, and quality of the fit and finish, if applicable. [c]  
12. Function effectively on a multi-disciplinary team through mutual support, consensus seeking, cooperation, and sharing responsibility. [d]  
13. Write a project report, adhering to the specified format using an appropriate writing style, grammar, and spelling [g]  
14. Make an oral presentation using effective visual aids. [g] |
| Topics: | 1. Introduction (use of labs, project notebooks, teamwork, etc.) Groups meet  
2. Work in groups  
3. Work in groups  
4. Work in groups  
5. Oral progress report(notebooks due)  
6. Work in groups  
7. Work in groups  
8. Work in groups  
9. Work in groups  
10. Oral progress report(notebooks due)  
11. Work in groups  
12. Work in groups  
13. Work in groups |
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>14</td>
<td>Draft final report due</td>
</tr>
<tr>
<td>15</td>
<td>Final oral presentation and poster presentation (posters due)(notebooks due)</td>
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</tbody>
</table>

**Computer usage:** Variable based on the group project topic.

**Laboratory projects:** All labs in electrical engineering.

**Evaluation methods:**

**ABET category:** Engineering Design 3.0 credits or 100%

**Prepared by:** Russell Eberhart

**Date:** February 22, 2008