**EECS 542 – Computer Systems Design Laboratory II**

**Lectures** – Tuesday and Thursday, 2:30 to 3:20 PM  
**Laboratory** – Friday, 9:00 to 10:50 AM  
3003 Eaton Hall

**Instructor:**  
Dr. Joseph B. Evans  
evans@itc.ku.edu  
2048 Eaton Hall, 864-8808  
Office Hours: By appointment

**Teaching Assistant:**  
Dain Vermaak  
d306v594@ku.edu  
Office Hours: To be arranged

**EECS 52 Description**

EECS 542 - Computer Systems Design Laboratory II  
3 credit hours  
A two semester lecture/laboratory course involving the specification, design, implementation, analysis, and documentation of a significant hardware and software computer system. Laboratory work involves software, hardware, and hardware/software trade-offs. Project requirements include consideration of ethics, economics, manufacturing, safety, and health aspects of product development. Can be taken only during the senior year.  
Prerequisite(s): EECS 541

**EECS 541/542 Topics**

- Introduction and overview  
- System design and specifications  
- Engineering economics, budgets, and financing  
- Review of software engineering tools  
  - Basics – scripting languages, compilers, lint, make, etc.  
  - IDEs – Eclipse for Android, Arduino tools, Visual Studio  
- User interface design  
  - Smart phone / tablets using Android  
- Network programming  
  - Sockets, TCP/IP networking, and security issues  
- Integrating hardware and software  
  - Arduino microcontroller programming  
  - Raspberry Pi microcontroller programming  
  - Sensors and control algorithms  
- System prototyping, testing, and debugging  
- Engineering ethics, safety, health, and regulatory considerations  
- Project reviews and demonstrations

Texts/References: Class notes
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic / Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 20</td>
<td>Course organization and review of design projects</td>
</tr>
<tr>
<td>March 3</td>
<td>Prototype demos</td>
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<tr>
<td>March 5</td>
<td>Prototype demos</td>
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<tr>
<td>March 17</td>
<td>Spring Break</td>
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<tr>
<td>March 19</td>
<td>Spring Break</td>
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<tr>
<td>April 7</td>
<td>Intermediate demos</td>
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<tr>
<td>April 9</td>
<td>Intermediate demos</td>
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<tr>
<td>April 28</td>
<td>Final demos</td>
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<tr>
<td>April 30</td>
<td>Final demos</td>
</tr>
<tr>
<td>May 5</td>
<td>Project reviews</td>
</tr>
<tr>
<td>May 7</td>
<td>Project reviews and voting</td>
</tr>
<tr>
<td>May 13</td>
<td>Final Exam, 1:30 PM - 4:00 PM, 3001 Eaton Hall</td>
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</tbody>
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Note that this schedule may be modified in order to adapt to currently unforeseen circumstances.
Grading Policy

The class will be graded competitively according to the percentages listed below. Each assignment within a category will be weighted equally. The course grade thresholds (that is, the numerical grade required to get a particular letter grade) will be set by the instructor to reflect the relative performance of the students. Class attendance is expected unless otherwise indicated.

Final Exam 20%
Project 40%
Homework, Miscellaneous Projects 40%

Note: failure to complete the "Project" portions of the course will result in a grade of F for the course.

3% per day will be subtracted from assignments turned in late, except under extraordinary circumstances and with adequate prior notification of the instructor.

The student must notify the instructor within 48 hours of a missed exam and present adequate justification. If illness is the justification, a doctor's note must be provided to the instructor.

An appeal on grades for individual assignments must be within 14 days of the date the assignment is returned.

Further details of the project grading procedure may be announced in class or via e-mail as required.