CSCE 611: Advanced Digital Design

Meeting times: MW 3:55-5:10

Locations: Swearingen 3D22

Textbook: Digital Design and Computer Architecture 2/e
by David Harris and Sarah Harris
Morgan Kaufmann (Elsevier) Publishers

Prerequisite: Introduction to Computer Architecture (CSCE 212)

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Office hours: by appointment

Grading structure:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Undergraduate</th>
<th>Graduate</th>
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</thead>
<tbody>
<tr>
<td>Lab 1: Design and testing of a MIPS ALU</td>
<td>5%</td>
<td>5.56%</td>
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<tr>
<td>Lab 2: Design of a MIPS register file</td>
<td>5%</td>
<td>5.56%</td>
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<tr>
<td>Lab 3: Design of a MIPS fetch stage</td>
<td>12.5%</td>
<td>11.1%</td>
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<tr>
<td>Lab 4: 3-stage CPU with R-type ALCS instruc</td>
<td>12.5%</td>
<td>11.1%</td>
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<tr>
<td>Lab 5: 3-stage CPU with load/store instruc</td>
<td>12.5%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Lab 6: 3-stage CPU with branch/jump instruc</td>
<td>12.5%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Lab 7: Peripheral interface (VGA/keys)</td>
<td>20%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Lab 8: VLIW CPU</td>
<td>(up to)</td>
<td>16.7%</td>
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<tr>
<td></td>
<td>10% extra credit</td>
<td></td>
</tr>
<tr>
<td>Final exam (practicum)</td>
<td>20%</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

Official Policy on Late Submissions
Late projects will be charged a 5% grade penalty for each school day after the due date, but limited to a maximum of 30%.

At most, you may only submit one version of any one project.

Students that do not complete the final project (lab 7 for undergraduate, lab 8 for graduate) by the end of the semester will not receive a passing grade except under special circumstances and with permission from the instructor.
**Academic Honesty Policy**
Students are encouraged to assist their colleagues for the purpose of overcoming technical challenges related to the use of the design tools. Also, students working on a group project must (by definition) perform joint work. However, any collaboration beyond these exceptions is prohibited and is subject to the university's guidelines, regulations, and policies regarding academic dishonesty.

**Students with Disabilities**
Any student with a documented disability should contact the Office of Student Disability Services at 777-6142 to make arrangements for appropriate accommodations.

**Syllabus Change Policy**
This syllabus is a guideline for the course and is subject to change with advance notice.

**Group Work Policy**
The course projects will require that students work in groups. Choose your group partner(s) wisely. All partners will receive the same grade for each project.