General Information

Supervising Professor: Dr. P. Nava
Office: Engineering Building, Room A-319
Email: pnava@utep.edu

Office Hours: 4:00 - 5:00 Monday
3:00 - 5:00 Wednesday
Other times by appointment
NOTE: TAs have additional office hours, please see BlackBoard LMS for details.

Lab Venue: Digital/Microprocessor Lab (Engineering Building, Room E-340)

Course Description: Implementation and testing of combinational and sequential digital systems.

Prerequisite: EE 1305 and EE 1105, each with a grade of “C” or better; or CS 1301 and CS 1101, each with a grade of “C” or better; or CS 1401 with a grade of “C” or better.

Co-requisite: EE 2369 (Digital Systems Design I) or ECE 2303 (Digital Systems Design I). There are hardware projects and software simulation projects, performed in the lab, that are associated with this class. The student is responsible for completing the labs, and meeting with the Teaching Assistant at the formally scheduled time assigned to the section in which the student registered. Please note that the lab is 1 credit hour, and the grade for that lab is calculated separately from the grade in the EE 2369 class.

Text: None. All handouts and printed materials will be provided.

Required Resources:
1) USB Flash Drive
2) ECE Student Computer Account (information about acquiring an account is provided in LAB)

Course Outcomes:
At the end of this course students will be able to:
• Utilize the standard design sequence to create Digital Logic Systems;
• Use the development environment to implement designs;
• Implement Digital Logic Systems in various forms;
• Use the an FPGA Chipset as target hardware for implementation; and
• Design via Verilog (HDL).

Course Policies:
• There are two versions of the lab, one for EE and ECE majors, one for non-EE majors. The sections for EE majors meet in person. The non-EE majors will meet in person only the first week.
• Pre-Lab Assignments are work assignments to be completed by the stated deadline, in preparation for your lab work.
• Lab work is completed, scanned, then uploaded to BlackBoard. Other requirements might exist, please attend lab for complete instructions on how to complete assignments.
• Group discussions and group problem solving is allowed and encouraged to the degree that it can be ensured that all group members contribute and understand all required facets of the work at hand.
• Lab Reports are due by the date indicated and must always be written by each student individually and uniquely in his/her own style.
Digital Systems Design I Lab
EE 2169 – Lab for EE 2369 and ECE 2103 – Lab for ECE 2303

General Information

- Late assignments will NOT be accepted without written medical, legal, military, or work justification. Special circumstances will be considered if reported in time. Makeup labs are by appointment only.
- All work must have good presentation for full credit.

Lab Guidelines
Each lab is divided into three important tasks: Pre-lab, Demonstration, and Lab Report. Students can access the instructions for all three parts via BlackBoard. Apart from the assigned TA for your lab there are other TAs, administering different lab sections, to help with questions.

Course Grading:
Lab Assignments .................. 75%
Quizzes.............................. 25%

Lab Grading Rubric:
<table>
<thead>
<tr>
<th>Task</th>
<th>Points</th>
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<tbody>
<tr>
<td>Pre-Lab</td>
<td>30 pts</td>
</tr>
<tr>
<td>Lab Demonstration</td>
<td>30 pts</td>
</tr>
<tr>
<td>Formal Lab Report</td>
<td>20 pts</td>
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<tr>
<td>Conclusions</td>
<td>20 pts</td>
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</tbody>
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Scale for Letter Grade:
<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90% – 100%</td>
<td>A</td>
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<tr>
<td>80% – 89%</td>
<td>B</td>
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<tr>
<td>70% – 79%</td>
<td>C</td>
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<tr>
<td>60% – 69%</td>
<td>D</td>
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<td>0% – 59%</td>
<td>F</td>
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Lab Report Guidance:
You will be provided with a Lab Assignment (write-up) on a weekly basis, via BlackBoard. It will have a short reading assignment, Pre-Lab assignment (preparation for the lab), Lab Procedure, and some guiding questions for writing your conclusion.

Pre-Lab:
- Calculations (tables, diagrams, K-maps, etc.)
- Justifications – 1 paragraph

Lab Procedure and Results:
- Steps involved in the procedure
- Schematics, HDL, screenshots (pictures), Simulation, etc.
- Justifications – 1 paragraph
- Notes on any problems encountered, and solutions implemented

Demonstration:
- Demonstrate working software, simulation, or circuit to Teaching Assistant, if applicable.

Conclusions:
- Discussion of the objective of the lab (given in the Lab Assignment), and what was learned during this lab. Answer questions given in the Lab write-up, which are intended to guide your conclusions.
- Some general questions that could be addressed here are:
  1. What is the relationship between the course lecture and how you implemented this lab?
  2. Comment on expected and unexpected results during the lab procedure.
  3. How is what you did in this Lab seen in technologies in the real world? Give examples.
Academic Dishonesty:
As an entity of The University of Texas at El Paso, the Department of Electrical and Computer Engineering is committed to the development of its students and to the promotion of personal integrity and self-responsibility. The assumption that a student’s work is a fair representation of the student’s ability to perform forms the basis for departmental and institutional quality. All students within the Department are expected to observe appropriate standards of conduct. Acts of scholastic dishonesty such as cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in the whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts will not be tolerated. Any case involving academic dishonesty will be referred to the Office of Student Conduct and Conflict Resolution (OSCCR). See the OSCCR homepage at http://sa.utep.edu/osccr/ for more information.

American Disabilities Act:
If you feel you may have a disability that requires accommodations, contact the Center for Accommodations and Support Services (CASS, http://sa.utep.edu/cass) at 747-5148 located in the Union East, Room 106.