University of Texas at El Paso
Electrical and Computer Engineering Department

EE 2169 – Laboratory for Digital Systems Design I

Fall 2016

COURSE INFORMATION

Room:	Engineering Building. E340
Final exam:	N/A
Course designation:	EE2169
Credit hours:	1
Catalog Description:	Design and synthesis of digital systems using both combinational and sequential circuits.
Prerequisite:	EE1305 or CS1401 with a grade of "C" or better.
Co-requisite:	EE2369 – Digital Systems Design I
Website:	http://wiki.utep.edu/display/EE2169Lab/Home

INSTRUCTOR INFORMATION

Sharmin Abdullah

Office:	ENG E319L
Office Hours:	TBD
E-Mail:	sabdullah@miners.utep.edu
Phone:	915-356-9967 (Emergency ONLY)

MIRZA MOHAMMAD MAQBULE ELAHI

Office:	ENG E319L
Office Hours:	TBD
E-Mail:	melahi@miners.utep.edu
Phone:	915-504-2169 (Emergency ONLY)

Maher Aldeghlawi

Office:	ENG E319K
Office Hours:	TBD
E-Mail:	maldeghlawi@miners.utep.edu
Phone:	915-491-8019 (Emergency ONLY)

TEXTBOOK

None

COURSE MATERIALS

Lab Notebook: Composition Notebook, 9 ¾" x 7 ½", Quadrille-ruled (or similar).
USB Removable Flash Drive
ECE Vectra Lab Student Computer Account (Acquired at Room E319 B)

COURSE OUTCOMES / DESIGN SEQUENCE

At the end of this course students will be able to use the LabVIEW and/or Xilinx ISE environments to implement Digital Logic Systems on the Xilinx Spartan 3 (or similar) FPGA Chipset via Verilog or schematic capture modules.

I. Design Creation (schematic capture or HDL)
II. Synthesis (create design into a gate-level netlist)
III. Constraints (specify timing constraints and I/O assignment)
IV. Implementation (compile design into place and route design)
V. Result Analysis (run a test bench and look at ISM simulation results to make corrections if necessary)
VI. Debug (close ISM, edit, and try again)
VII. Device Programming (download design into device)

COURSE POLICIES

- You are required to come to class and be on time. Assignments are due within 30 minutes of the start of class.
- Late assignments will NOT be accepted without **written** medical, legal, military, or work justification. Special circumstances will be considered if reported on time, makeup labs are by appointment only.
- Group discussions and team problem solving is allowed and encouraged to the degree that everybody will contribute and understand everything that has been worked on. Lab assignment documentation (Lab Notebooks) must always be written-up by each student individually and uniquely in his/her own handwriting and in his/her own style.
- Pre-Lab: Pre-Lab assignments are the preparation required for each lab assignment. They should be done in the required lab notebook and must be submitted it at **the beginning of each lab session.** They are part of the overall lab assignment and will be graded as such.
- Lab Assignments: Lab assignments should be done in the required lab notebook and must be submitted it at **the beginning of each lab session**. Each student must present a working demonstration of the lab assignment to the instructor **before the end** of the lab session in order to earn full credit. Group work however, is allowed during regular semester projects. Help the person to your right/left, they'll learn and you'll practice.
- Final Project: Implementation of a project will be your final lab for the semester.
- **Academic dishonesty will not be tolerated.** If you are suspected of academic dishonesty, you will immediately be referred to the UTEP OSCCR office, without notice or warning.
- Samples of student work will be collected for quality assurance purposes. Please notify the professor, in writing, if there is any confidentiality requirement.
- All printed work must be stapled or glued, with good presentation.

GRADING SCALE

Lab Assignments (equally weighted)	75%
Final Project	25%

LAB NOTEBOOK GRADING RUBRIC

Pre-lab 30%
- Calculations (tables, diagrams, k-maps, ect.)
- Justifications - 1 paragraph

Lab Results 30%
- Schematics, HDL, Pictures, Simulation, ect.
- Justifications – 1 paragraph
- Notes of any problems and solutions to those problems

Conclusions 20%
- What is the relationship between the course lecture and how you implemented this lab?
- Comments on what was expected and unexpected from the lab assignment?
- How is what you did in this Lab seen in technologies in the real world? Give examples.

Demonstration 20%

ACADEMIC HONESTY

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). The Associate Dean of Students will assign a Student Judicial Affairs Coordinator who will investigate the charge and alert the student as to its disposition. Consequences of academic dishonesty may be as severe as dismissal from the University. 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) at 747-5148 or go to the Union East, Room 106.