University of Texas at El Paso
Electrical and Computer Engineering
Digital Systems Design 1
EE2369, Fall 2017

INSTRUCTOR:	Virgilio Gonzalez
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OFFICE HOURS:	MW: 10:40 AM–12:00 PM, or by appointment
TEXTS:	REQUIRED: Zybook on Digital System Design 1. Sign in or create an account at learn.zybooks.com 2. Enter zyBook code: **UTEPEE2369GonzalezFall2017** 3. Subscribe Note: If you are repeating the course notify the instructor. Optional (NOT required) Morris Mano, "*Digital Design with Verilog"*, **5th** Edition, Pearson
CATALOG DESCRIPTION:	EE2369: Design and synthesis of digital systems using both combinational and sequential circuits. Includes laboratory projects implemented with standard ICs. Corequisite: EE 2169. Prerequisite: EE 1305 or CS 1401 with a grade of "C" or better. EE2169: Implementation and testing of basic combinational and sequential digital systems. Co-requisite: EE 2369. Prerequisite: EE 1305 or CS 1401 with a grade of "C" or better.
TEACHING ASSISTANTS	Aldeghlawi Maher, Email: maldeghlawi@miners.utep.edu Lab: To Be announced

Course Outcomes

1. Apply concepts of number systems to perform binary arithmetic and conversions between bases.
2. Apply Boolean algebra and K-Map to simplification of Boolean expressions, analysis and synthesis of digital circuits
3. Design combinational circuits, such as binary adders, code converters, etc., by using logic gates
4. Design sequential circuits, such as counters, registers, etc., by using flip-flops and logic gates
5. Design and test digital circuits using MSIs, EPROMs and simple CAD tools.

Content Material

Item #	Topic	Chapter Reading
1	Binary numbers,	9
2	Other base arithmetic, Signed binary numbers	9, Other Notes*
3	Combinational Logic 1	1

4	Combinational Logic 2	2
5	Verilog	3
6	Sequential Logic	4
7	DataPath components	5
8	Other topics*	6-7

* Correspond to supplementary material

GENERAL COURSE POLICIES

- Students will need to use the ebook system from zybook.com through a subscription to the Digital Design book. There will be daily online homework and the grade is based on the timely submission.
- Samples of student work will be collected for quality assurance purposes. Please notify the professor, in writing, if there is any confidentiality requirement.
- If a student requires special support please contact the Center for Accommodations and Support services (http://sa.utep.edu/cass/) to help us have a plan and obtain the proper resources.
- The Professor will be available only during the assigned office hours or by appointment; Email questions are fine but they might not be answered right away.
- Most homework, Special Problems and other assignments will be solved online with **Zybook** and BlackBoard.
- A BlackBoard (https://my.utep.edu/myhome.aspx) account is required. It normally is automatically created. If you don't know your account and password, please check with the Help Desk in extension 4357 (or 747-5257 off campus)
- Each piece of written work must have **name,** student **ID, TEAM** number (if applicable) at the **upper right corner** of the first page; and the **name** in all remaining pages.
- All printed work must be stapled, with good presentation. Final results must be emphasized (example red underline or highlighted box)
- Online work must have in the first text line the name of the student, date, Student id# and the team number (when applicable).
- No late work will be accepted but special circumstances will be considered if reported on time
- Due dates for Lab assignments, homework and exams will be notified with at least one week in advance.
- An **individual quiz** might be applied online the due date for each homework, or in class.
- Detailed instructions for the **Labs** and other policies will be **provided later** in separate handouts and in **BlackBoard**

GRADING

ITEM	Points / Ea
Exams 1, 2, 3 & 4	150
Zybook assignments (85% completion per section)	150
Attendance	100
Team class discussions/problems	5
Quizzes	10-20
Reports or special assignments	30-60
Points given by instructor on student participation	0-20

- Each element will accumulate points
- Some elements are individual and others depend on team performance

- **Show always all the procedure** to arrive to the solutions. End results without the right procedure are considered conceptual errors.
- In exams, each problem has its own weight and will be indicated at the beginning of the problem, points are given by problem section (e.g. sections *a* and *b* of same problem have their own points).
- The grade of an exam answer will be 100% if correct and justified or 0%. To earn partial credit, the student will need to provide an additional paper identifying the reason for the errors, justifying the correct answer and return with the original test back for second grading.
- Labs, homework and special problems have the grades Satisfactory (100%), Attempted (50%) or Unsatisfactory (0%) for the points available. Online quizzes are either "all or nothing" points.
- Letter scale will be **A:** 90%-100%; **B:** 80%-89.9%; **C:** 70%-79.9%; **D:** 60%-69.9%; **F:** below 60% of the reference grade.

Academic Honesty

- It is expected that the students will conduct with integrity in all course areas. Do not attempt to engage in a dishonest activity such as copying, plagiarism, falsifying information, etc. The professor will take measures to prevent such instances and will bring a case to the university authorities.
- Information about University wide policies could be found in the Dean of Students Web page at http://sa.utep.edu/osccr/academic-integrity/

TEAM Policies

- Some assignments will be reported in **teams of 2 or 3 students**. However there is always an individual evaluation for each activity. **Teams could be self-selected.**
- All members ***must contribute*** for each assignment and need to show their own part in the team's report.

EE2169 Lab Policies

- The laboratory is graded independently of the lecture. Please review the lab syllabus and other instructions at : http://wiki.utep.edu/display/EE2169Lab/Home