

**University of Texas at El Paso**  
**Electrical and Computer Engineering**  
**Digital Systems Design 1**  
**EE2369, Spring 2015**

INSTRUCTOR:	Virgilio Gonzalez
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OFFICE HOURS:	Mon 10:00 – 11:00 AM, Tue 3:00 – 4:30 PM or by appointment
TEXTS:	Morris Mano, “ <i>Digital Design with Verilog</i> ”, 5 <sup>th</sup> Edition, Pearson
TEACHING ASSISTANT	Pablo Rangel-Guzman, office hours MT 3:30-5:00 PM, Office ENG-E307

**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, Other base arithmetic	1
2	Signed binary numbers, Codes	1
3	Boolean Algebra	2,3
4	Simplification & Karnaugh Maps	3
5	Combinational Logic	4
6	Sequential Logic	5, 6
7	Other topics*	7, 8

\* Correspond to supplementary material

**GENERAL COURSE POLICIES**

- 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; however there will be frequent response to posted questions in BlackBoard.
- Most homework, Special Problems and other assignments will be solved online with **BlackBoard**.

- A BlackBoard (<https://my.utep.edu/myhome.aspx> ) account is required. They normally already exist. 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, 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	200
Attendance	100
Team class discussions/problems	5
Homework Quiz	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://studentaffairs.utep.edu/Default.aspx?alias=studentaffairs.utep.edu/dos>

### 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>