

**ITEC 322 Digital Electronics Technology SYLLABUS**  
**Industrial Technology Department**  
**College of Engineering**  
**UNIVERSITY OF SOUTHWESTERN LOUISIANA**

Course:322 - Digital Electronics Technology  
Instructor: Dr. Cherif Aissi , Rougeau Hall #230  
Tel: 482-6971

**Overview:** This course is designed to teach the students the fundamentals of digital systems. Both combinational and sequential circuit analysis and design are covered. Several logic gates and memory circuits are introduced. Troubleshooting procedures and problem solving are covered. Hands-on equipment and practical application design are emphasized. Projects on how to design combinational and sequential applications are assigned.

**Textbook:** “Digital Fundamentals” by Thomas L. Floyd, Prentice Hall, Inc, 4th Edition 1997.

**Lab Textbook:** “Digital Experiments Emphasizing Systems and Design,” by David Buchla, Prentice Hall, Inc, 4th Edition 1997.

**References:** “Digital Logic Circuit Analysis & Design” by Victor P. Nelson, H. Troy Nagle, Bill D. Carroll and J. David Irwin, Prentice Hall, 1995.

**Grading**

Components	Points
Homework/ Lab reports	20%
Quizzes	20%
Exam 1	20%
Exam 2	20%
Final Exam	20%

The grading system is in accordance with university policy that is

100-90%	A
89-80%	B
79-70%	C
69-60%	D
59-0%	F

## Course Outline:

1. Lecture: Introductory Digital Concepts: read chapter 1, do homework 1  
Lab: Exp 2.
2. Lecture: Number systems, Operations and Codes, read chapter 2, do homework 2  
Lab: Exp 3
3. Lecture: Logic gates, part 1, read chapter 3, do homework 3.  
Lab: Exp 4.
4. Lecture: Logic gates, part 2, read chapter 3, do homework 4.  
Lab: Exp 5.
5. Lecture: Boolean Algebra, read chapter 4, do homework 5.  
Lab: Exp 6
6. Lecture: Logic Simplification, read chapter 4, do homework 6.  
Lab: Exp 7
7. Lecture: Combinational Logic, part 1. Read chapter 5, do homework 7.  
Lab: Exp 8 or Exp 9. Presentation.
8. Lecture: Combinational Logic, part 2. Read chapter 5, do homework 8.  
Lab: Exp 8 or Exp 9. Presentation.
9. Lecture: Functions of Combinational Logic part 1. Read chapter 6, do homework 9.  
Lab: Exp 10.
10. Lecture: Functions of Combinational Logic part 2, read chapter 6, do homework 10.  
Lab: Exp 11.
11. Lecture: Flip-Flops and Related Devices, read chapter 8, do homework 11  
Lab: Exp 14
12. Lecture: Flip-Flops and Related Devices, read chapter 8, do homework 12  
Lab: Exp 16
13. Lecture: Counters, read chapter 9, do homework 13  
Lab: Exp 18
14. Lecture: Counters, read chapter 9, do homework 14  
Lab: 19
15. Lecture: Shift Registers, read chapter 10, do homework 15  
Lab: Exp 22

## **Class attendance and regulations**

1. Regular attendance and punctuality is mandatory. (See Univ. Class attendance policy).
2. If you miss more than 3 classes (lectures or labs) with no written justification, you will automatically fail the class.
3. If you miss a class, have a friend pick up your assignments and any documents handed out.
4. When absent, you are responsible for the work you missed.
5. You are responsible to be prepared for the next class after missing one or more classes.
6. Have at least two phone numbers of your classmates to keep up with assignments.
7. Assignments are not accepted after the deadline date.
8. No make-up test will be given. If you miss a test for a justified reason, then the next test will count in proportion with the one you missed.
9. Review the previous lecture before attending the next lecture and be ready for any quiz.
10. No food, no drinks, no games in the classroom or the Lab.

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## **SYLLABUS STATEMENT**

### **EMERGENCY EVACUATION PROCEDURES**

A map of this floor is posted near the elevator marking the evacuation route and the **Designated Rescue Area**. This is an area where emergency service personnel will go first to look for individuals who need assistance in exiting the building. Students who may need assistance should identify themselves to the teaching faculty.