Course Syllabus

(Please read this syllabus in its entirety. There is important information throughout)

Course Information

Course Number/Section	EE/CE 2310.501
Course Title	Introduction to Digital Systems
Term	Spring 2024
Lectures – Days, Time & Place	**TR - 5:30pm – 6:45pm at GR 4.301**
Labs – Days, Time & Place	**Tuesday - 11:30am – 12:45pm at ECSN 2.126** **Thursday - 8:30am – 9:45am at ECSN 2.110**

Professor Contact Information

Instructor	Shaheen Ahmed
Email	shaheen.ahmed@utdallas.edu
Office Location	ECSN 4.914
Office Hours	**Mondays 12:00pm – 1:00 pm; Fridays 1:00pm – 3:00pm or by appointment.**
Teaching Assistant	TBD

Pre-requisite: A working knowledge of basic algebra and knowledge of programming fundamentals.

Textbook: zyBooks CE 2310/EE 2310: Introduction to Digital Systems. To acquire access to this online text:

1. Sign in or create an account at learn.zybooks.com
2. Enter zyBook code: UTDALLASCE2310EE2310AHMEDSPRING2024
3. Subscribe.

Additional Resources:

1. Fundamentals of Logic Design, 7th edition by Charles H. Roth, Jr, & Larry L. Kinney
2. Computer Organization and Design, 2nd edition by Davis A. Patterson & John L. Hennessy

Course Description (3 hour lecture per week plus a 1.5 hour lab):

Topics include: Boolean algebra and combinational logic, internal data representation and arithmetic operations in a computer, as well as functions of basic datapath elements and how they can be incorporated into a simple processor.

Course Objective:

Upon the completion of the course, the student should be able to

1. Be fluent in binary numbers and base conversion.
2. Be fluent in Boolean algebra and computational techniques.
3. Be able to read and write assembly language code.
4. Have a basic understanding of computer organization and design.

Course Evaluation:

Grading Policy	
Reading HW	(10%)
HW	(10%)
Attendance	(5%)
Labs	(25%)
Exam # 1	(15%)
Exam # 2	(15%)
Final Exam	(20%)

Grade Range		
A+: 97 - 100	A: 93 - 96	A-: 90 - 92
B+: 87 - 89	B: 83 - 86	B-: 80 - 82
C+: 77 - 79	C: 73 - 76	C-: 70 - 72
D: 69 - 60	F: < 60	

Important Class Dates:

Test 1: review in class on Feb. 13 and **Exam 1 on Feb 15 & 16 at Testing center**.
Test 2: review in class on March 19 and **Exam 2 on March 21 & 22 at Testing center.**
Final Exam: review in class on April 30, May 2 and **Final exam on May 8, 9, 10 at Testing center.**

How to succeed in this class:

1. Attend lectures, take notes and practice recalling the material covered in the class frequently.
2. Make a separate note book for this course since we will be solving problems in the class.
3. Attend all lab sessions and complete the reading and assignment on time. Rework reading activities and homework problems several times. Study with friends or a group.
4. Visit me during the office hours or email me fi you have any questions about lectures or homeworks.

Class Plan:

Lecture		Topics Covered	Due this week	Laboratory
#	Date		Check dates	Monday, Tuesday, Thursday
1	Jan. 16 & 18	Intro to CE/EE 2310; Intro. to Combinational logic	Nothing due	--No Lab --
2	Jan. 23 & 25	Boolean algebra, equations, truth tables, timing	Reading 1, HW 1	--No Lab --
3	Jan. 30 & Feb.1	Base conversion, binary addition & subtraction	Reading 2, HW 2	Prelab 1, Lab 2
4	Feb. 6 & Feb.8	K- Maps, deMorgan and more Gates	Reading 3, HW 3	Prelab 2, Lab 2
5	Feb. 13 & Feb.15	Test Review; **Exam 1 at Testing center Feb. 15 and 16**		Lab 3
6	Feb. 20 & Feb.22	Muxes, Decoder, Encoder, Adders & Subtractors	Reading 4, HW 4	Prelab 4, Lab 4
7	Feb. 27 & Feb. 29	Comparators, Register, Memory	Reading 5, HW 5	Prelab 5a, Lab 5a
8	March 5& 7	Information as bits, Floating & Fixed-point arithmetic	Reading 6, HW 6	Prelab 5b, Lab 5b
	March 12 & 14	Spring Break; no class meeting	Reading 7, HW 7	Prelab 6, Lab 6
9	March 19 & 21	Test Review, **Exam 2 at Testing center on March 21 and 22**		Make up lab
10	March 26 & 28	Shifters & Binary multiplication,	Reading 8, HW 8	Lab 7
11	April 2 & 4	MIPS – assembly language programming	Reading 9, HW 9	Lab 8
12	April 9&111	MIPS – assembly language programming	Reading 10, HW 10	Lab 9
13	April 16 & 18	Processor design	Reading 11, HW 11	Lab 10
14	April 23 & 25	Processor design	Reading 12, HW 12	--
15	April 30 & May 2	Test review		--
	May 7 – 9	**Final Exam; date TBD**		

Steps for submitting the assignments on e-Learning:

1. Install a scanning app on your phone and use it to convert your assignment to pdf.
2. Open the browser and type elearning.utdallas.edu
3. Submitting your assignment is a two step-process:
   a. Upload your file.
   b. Review the preview image of your document to make sure it is correct. If it is not, resubmit it.
   c. Click the **CONFIRM** button. If you do not click the confirm button, your assignment will not the submitted.
4. Make sure you receive the confirmation email. If you do not receive the confirmation email, your assignment was **NOT SUBMITTED** successfully. Try again, making sure you are following steps 2 and 3 properly.

Course Policies:

Modality: The lectures and labs will be conducted **in-person.**

Attendance: **Regular and punctual attendance is mandatory.** For excused absences (such as sick leave, death in the family) the student should provide proper documentation.

Reading Assignments: Weekly reading assignment will be assigned on zybook. The students must read the contents taught in the class and finish the reading assignments given in zybook. After the deadline window is closed no reading assignments will be accepted. If a student misses the deadline due to family emergency, or sickness, then student is obligated to inform the faculty immediately to make arrangements for a make-up reading assignment within 5 business day. A failure to do so may result in a grade of 0 for the reading assignment regardless of the excuse for the absence. Unexcused absence will result in a grade of 0.

Assignments: The students must complete the weekly assignments which will be posted on e-Learning. After the deadline, no further assignments will be accepted. If a student misses the deadline due to family emergency, or sickness, then student is obligated to inform the faculty immediately to make arrangements for a make-up reading assignment within 5 business day. A failure to do so may result in a grade of 0 for the reading assignment regardless of the excuse for the absence. Unexcused absence will result in a grade of 0.

Labs: Attending lab is mandatory. Before coming to the lab students are required to submit the Pre-Lab on e-Learning. If a student misses the lecture or lab due to business trip, family emergency, religious holiday etc. then student is obligated to inform the faculty immediately to make arrangements for a make-up lab session within 5 business day. A failure to do so may result in a grade of 0 for the lab regardless of the excuse for the absence. Unexcused absence will result in a grade of 0 for the missing lab.

Cheating or plagiarism: Copying on examinations is prohibited. Any instances of cheating or plagiarism will be subject to disciplinary penalties according to the UT Dallas policy on scholastic dishonesty. The penalties include the possibility of failure in the course and/or dismissal from the university. Read the policy at http://www.utdallas.edu/deanofstudents/dishonesty/

e-Learning: The assignments, labs and complementary material will be posted on e-Learning. It is the responsibility of the students to check it regularly.

Grading: The student can dispute the graded work within one week of the return of that work (HWs, Exams).

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Support Resources

The information contained in the following link lists the University's academic support resources for all students. Please see http://go.utdallas.edu/academic-support-resources.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please review the catalog sections regarding the credit/no credit or pass/fail grading option and withdrawal from class. Please go to http://go.utdallas.edu/syllabus-policies for these policies.

These descriptions and timelines are subject to change at the discretion of the instructor.