UT Dallas
EE/CE 2310 Introduction to Digital Systems
Fall 2024

- **Professor Contact Information**

Instructor	Haifa Abulaiha
Email:	haifa.abulaiha@utdallas.edu
Course Website:	http://elearning.utdallas.edu/
Office hours:	Wed. & Fri 1:00 – 2:00 pm in ECSN 4.524 OR by appointment

- **Pre-requisite:**

A working knowledge of basic algebra and knowledge of programming fundamentals.

- **Course Objective:**

  By the end of this course you should:

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

- **Required Materials:**

  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: **UTDALLASCE2310_EE2310AbulaihaFall2024**
  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 Evaluation:**

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

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- **Grading scale:**

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:**
  - *First Lecture:* August 20
  - Fall 2024 Career & Internship Fair Days: Sept.10, 11, 12 from 11am – 2pm. For more information, go to: https://career.utdallas.edu/ and https://career.utdallas.edu/employers/recruitment/ .
  - Test 1: review in class on Sept. 17 and **Exam 1 on Sep. 19 & 20 at Testing center.**
  - Test 2: review in class on Oct. 15 and **Exam 2 on Oct. 17 & 18 at Testing center.**
  - Last Day of Class: final exam review on Dec. 3 & 5
  - Final Exam: **Final exam on Dec. 9, 10, 11 at Testing center.**

- **How to succeed in this class:**
  - Attend lectures, take notes and practice recalling the material covered in the class frequently.
  - Make a separate notebook for this course since we will be solving problems in the class.
  - 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.
  - Visit me during the office hours or email me if you have any questions about lectures or homework.

- **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.

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- **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).

- **Class Plan:**

Lecture		Topics Covered	Due this week	Laboratory
#	Date		Check dates	M/ Tu / Th
1	August 20 & 22	Intro to CE/EE 2310; Intro. to Combinational logic	Nothing due	--No Lab --
2	August 27 & 29	Boolean algebra, equations, truth tables, timing	Reading 1, HW 1	--No Lab --
3	Sep. 3 & 5	Base conversion, binary addition & subtraction	Reading 2, HW 2	Prelab 1, Lab 1
4	Sep. 10 & 12	K- Maps, deMorgan and more Gates	Reading 3, HW 3	Prelab 2, Lab 2
5	Sep. 17 & 19	Test Review; **Exam 1 at Testing center Sep. 19 & 20**		Lab 3
6	Sep. 24 & 26	Muxes, Decoder, Encoder, Adders & Subtractors	Reading 4, HW 4	Prelab 4, Lab 4
7	Oct. 1 & 3	Comparators, Register, Memory	Reading 5, HW 5	Prelab 5a, Lab 5a
8	Oct. 8 & 10	Information as bits, Floating & Fixed-point arithmetic	Reading 6, HW 6	Prelab 5b, Lab 5b
9	Oct. 15 & 17	Test Review, **Exam 2 at Testing center on Oct. 17 & 18**		Make up lab
10	Oct. 22 & 24	Shifters & Binary multiplication,	Reading 7, HW 7	Prelab 6, Lab 6
11	Oct. 29 & 31	MIPS – assembly language programming	Reading 8, HW 8	Lab 7
12	Nov. 5 & 7	MIPS – assembly language programming	Reading 9, HW 9	Lab 8
13	Nov. 12 & 14	Processor design	Reading 10, HW 10	Lab 9
14	Nov. 19 & 21	Processor design	Reading 11, HW 11	Lab 10
	Nov. 26 & 28	Fall Break -- no class meeting	Reading 12, HW 12	--
15	Dec. 3 & 5	Test review		--
	May 7 – 9	**Final Exam at Testing Center on Dec. 9, 10, 11**		

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- **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:
   i) Upload your file.
   ii) Review the preview image of your document to make sure it is correct. If it is not, resubmit it.
   iii) 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.
5. For additional assistance, contact elearning@utdallas.edu.

- **Class Materials**

The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

- **Classroom Conduct Requirements Related to Public Health Measures**

UT Dallas will follow the public health and safety guidelines put forth by the Centers for Disease Control and Prevention (CDC), the Texas Department of State Health Services (DSHS), and local public health agencies that are in effect at that time during the Fall 2021 semester to the extent allowed by state governance. Texas Governor Greg Abbott's Executive Order GA-38 prohibits us from mandating vaccines and face coverings for UT Dallas employees, students, and members of the public on campus. However, we strongly encourage all Comets to get vaccinated and wear face coverings as recommended by the CDC. Check the Comets United: Latest Updates webpage for the latest guidance on the University's public health measures. Comets are expected to carry out Student Safety protocols in adherence to the Comet Commitment. Unvaccinated Comets will be expected to complete the Required Daily Health Screening. Those students who do not comply will be referred to the Office of Community Standards and Conduct for disciplinary action under the Student Code of Conduct – UTSP5003.

- **Class Attendance**

The University's attendance policy requirement is that individual faculty set their course attendance requirements. Regular and punctual class attendance is expected. Students who fail to attend class regularly are inviting scholastic difficulty. In some courses, instructors may have special attendance requirements; these should be made known to students during

the first week of classes. Faculty have the discretion to set an attendance policy for their in-person meetings, but the absences due to COVID-19 cannot be counted against a quarantined student.

- **Class Participation**
  Regular class participation is expected. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

- **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.