Course Syllabus

Course Information
CS/SE 2340-Computer Architecture-Spring 2021

Professor's Contact Information
Professor: Dr. Gity Karami
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Office Location:ECSS 3.202
Email: gity.karami@utdallas.edu
Office hours: Fridays: 4:00 pm – 6:00 pm by appointment
Signup link: https://calendly.com/gxk180009/virtual-office-hours
Please sign up in advance (at least one day before your scheduled meeting)

Course Modality and Expectations
- **Instructional Mode:** Online
- **Course Platform:** All instruction will be through the eLearning platform, where Youtube links to the recorded lectures will be posted. We will also use Microsoft Team as synchronous Q&A platform and piazza as asynchronous Q&A platform.
- **Expectations:** Students should watch each recorded class shortly after the class's recording has been posted. (Please see "Course Schedule" below for what are a class's "tentative times".) Active participation on piazza is also expected.
- **Asynchronous Learning Guidelines:** You will have asynchronous access to the all course materials. Asynchronous access does not mean that you can complete the course and course requirements at your own pace or discretion. Asynchronous access means flexibility is given to you completing the course at a distance. Please note that you will need to meet the requirements and standards set forth by the instructor.

Class Recordings:
The class's lectures will be recorded and YouTube links posted in eLearning. Additionally, the instructor may record other meetings of this course, and such recordings will be posted in eLearning too. Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded material. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility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.

Course “Tentative Times”:

Typically, the lecture recordings will be available in eLearning: Tuesday and Thursday, by 9:00am. (Although you can watch the recordings at any time and not necessarily at the tentative times, it is suggested that you watch each recorded class shortly after the class’s recording has been posted, but definitely by Thursday each week.)

Piazza:.

We'll be using piazza as asynchronous Q&A platform. The quicker you begin asking questions on Piazza (rather than via emails), the quicker you'll benefit from the collective knowledge of your classmates and instructor. I encourage you to ask questions when you're struggling to understand a concept. The link to enroll in Piazza is available in e-learning.

Microsoft Team:

We'll be using Microsoft Team as synchronous Q&A platform. Typically, we will have optional live Q&A sessions every two weeks on Fridays. Attending to the live Q&A sessions is highly recommended.

Class Participation:

Regular viewing of class’s recordings and piazza’s posts is expected. Students who fail to follow the class materials regularly are inviting scholastic difficulty. The course’s material gets much more complex as the course progresses, and it is typically very difficult to catch up with missed classes.

Class Materials:

The instructor may provide class materials that will be made available to all students registered for this class. 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 the 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.

Course Prerequisites:

(CE 1337 or CS 1337 or TE 1337 with a C or better or equivalent) and (CE 2305 or CS 2305 or TE 2305 with a C or better).

Course Description:

CS/SE 2340 - Computer Architecture (3 semester credit hours) This course introduces the concepts of computer architecture by going through multiple levels of abstraction, and the numbering systems and their basic computations. It focuses on the instruction-set architecture of the MIPS machine, including MIPS assembly programming, translation between MIPS and C, and between MIPS and machine code. General topics include performance calculation, processor data path, pipelining, and memory hierarchy.

Text Book:

Computer Organization and Design - The Hardware/Software Interface – Fifth Edition, Patterson and Hennessey, Morgan-Kaufmann, ISBN: 978-0-12-407726-3
*supplementary materials will be posted in the e-learning

Learning Objectives:

After successful completion of this course, the student should

- be able to write a fully functional, stand-alone medium size assembly language program (e.g. a basic Telnet client)
- have an ability to represent numbers in and convert between decimal, binary, and hexadecimal and perform calculations using 2's complement arithmetic
- understand the basic model of a computer including the data path, control, memory, and I/O components
- be able to program efficiently in an assembly level instruction set, including the use of addressing modes and data types
- understand the role of compilers, assemblers, and linkers and how programs are translated into machine language and executed
- be able to demonstrate comprehension of a pipelined architectures including data paths and hazards
- understand the memory hierarchy including caches and virtual memory
- be able to demonstrate comprehension of computer performance measures and their estimation
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Tentative Course Schedule:

Week	Date	Material Covered
1	Jan 20	Syllabus
2	Jan 25, Jan 27	Chapter 1
3	Feb 1, Feb 3	Chapter 1, Chapter 2
4	Feb 8, Feb 10	Chapter 2
5	Feb 15, Feb 17	Chapter 2
6	Feb 22, Feb 24	Chapter 2
7	Mar 1, Mar 3	Chapter 2
8	Mar 8, Mar 10	Chapter 3, Midterm Exam
9	Mar 15, Mar 17	Spring Break
10	Mar 22, Mar 24	Chapter 3
11	Mar 29, Mar 31	Chapter 3, Chapter 5
12	Apr 5, Apr 7	Chapter 5
13	Apr 12, Apr 14	Chapter 5
14	Apr 19, Apr 21	Chapter 5
15	Apr 26, Apr 28	Chapter 5 , Chapter 4
16	May 3, May 5	Chapter 4
May 10th		Final Exam

Course Works and Grading Policies:

Exams: 48% (Midterm Exam: 18% , Comprehensive Final Exam: 30%)
Assignments: 48% (Six Assignments, each 8%)
Quizzes: 4%

*Instructor reserves the right to alter these weights or make changes as she sees fit.

Grades will be assigned according to the following scale

A+	97 and above
A	93 - 96 (93 or more and less than 97)
A-	90 - 92 (90 or more and less than 93)
B+	87 - 89 (87 or more and less than 90)
B	83 - 86 (83 or more and less than 87)
B-	80 - 82 (80 or more and less than 83)
C+	77 - 79 (77 or more and less than 80)
C	73 - 76 (73 or more and less than 77)
C-	70 - 72 (70 or more and less than 73)
D	60 - 69 (60 or more and less than 70)
F	Below 60

*We will have reading assignment every week.

Exams: There will be two exams in this course. You are responsible for being available during the exam times. If you cannot make an exam time due to a valid excuse, you must let me know BEFORE the exam date and time. Medical emergencies will require a note from your Doctor. Missed exams will result in a grade of 0 for that exam. You should also be able to fully demonstrate any of your submitted exams. Otherwise, you will be given zero credit for the exam.

This course may use Honorlock – an online exam proctoring tool. To successfully take an exam, you must have a web camera with microphone, a laptop or desktop computer (no tablets/phones), Chrome browser, a reliable internet connection and your photo ID. You will be prompted to install the Honorlock Chrome Extension (which you can remove after you finish the test). You will then access the exam within your eLearning course and go through the authentication process. The web camera will monitor you throughout test. Please see the Testing Guidelines and Support Information for additional information.

Assignments: Doing assignments is vital for meeting the learning objectives and succeeding in this course. There will be six assignments in this course. You must work on the assignments individually. You should also be able to fully demonstrate any of your submitted assignments. Otherwise, you will be given zero credit for the assignment.

Quizzes: You are supposed to work on each quiz in teams of two students or individually. You are allowed to use the text book and lecture slides during the quizzes. Quizzes will be posted on Thursdays at 11:59 pm and you have 24 hours to submit them. Late submissions will not be accepted for any quizzes.

Late Submission Policy: I expect you to submit all assignments by the due dates. If you submit your assignments late, 15% penalty will be deducted per day. Late assignments will be accepted up to 2 days after the due date and thereafter 0. If you believe that you have a valid excuse for your work being late, then you must make arrangements with the instructor BEFORE the due date. Late submissions are not permitted once the graded assignment has been returned to students. Medical excuses will require a note from your Doctor.

One Time Extension Pass: I understand you may not be able to always submit your work on time due to a circumstance beyond your control. I will grant all students one extension pass. The extension pass extends the due date of one assignment 24 hours and avoids 15% late penalty. Please note that the extension pass can be used ONLY one time during the semester. If you use the extension pass for an assignment more than 24 hours after its due date, you will lose the extension pass and late policy will be applied.

Grading Disputes: All grade disputes must be reported to the instructor using grading dispute form within 5 days of the grade being posted in eLearning. Uncontested grades will become final after 5 days and cannot be disputed later.

Academic Dishonesty: You should do your own work on exams and assignments. Copying another student's work is not acceptable. Any indication of cheating and/or plagiarism on an exam/assignment will be an automatic 0 (zero) for the exam/assignment for all students involved. Solutions copied from the internet, instructor's manual, etc. will be also given zero credit. Please note that suspected incidents will be reported to the Office of Community Standards and Conduct.

Communications: I will be communicating with you via eLearning, piazza, and e-mail. If you need to send me an e-mail make sure it is using your UTD e-mail address. Please choose appropriate subjects for your emails. Always include your course and section number in the subject of your emails (for example, CS 2340.0W2-Midterm exam). I won't answer your emails, if you don't put the course number and section number in the subject of your emails. Make sure you are checking eLearning announcements and checking your UTD e-mail frequently. I can't respond to you via gmail or any other non-UTD e-mail system. I need to verify that you are my student and I can only do that with the UTD e-mail system.

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

Additional Policies: Please visit http://go.utdallas.edu/syllabus-policies for all other University policies

Descriptions and timelines are subject to change at the discretion of the Professor.