

# ASSEMBLY LANGUAGE AND COMPUTER ORGANIZATION

## CSCE 2610.001 – SUMMER 2014 10W

<b>Instructor:</b>	Dr. Mark Thompson
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<b>Class Location/Time:</b>	NTDP B142, TuTh 12:30 – 2:20 PM
<b>Office Hours:</b>	TuTh 11:30 – 12:30 PM TuTh 4:30 – 5:30 PM <i>or by appointment</i> <i>Every attempt will be made to answer e-mails within 24 hours.</i>
<b>Textbook:</b>	David A. Patterson and John L. Hennessy, <i>Computer Organization and Design, Fifth Edition</i> , Elsevier, 2014. ISBN 978-0-12-407726-3. Supplements will be provided as needed.
<b>Prerequisites:</b>	CSCE 2100. Co-requisite: EENG 2710.
<b>Blackboard</b>	This course will use Blackboard, a Web-based course management system, to distribute course materials, communicate and collaborate online, post grades and submit assignments. You are responsible for checking the Blackboard course site regularly for class work and announcements.
<b>Grader</b>	Tawfiq Shah <b>Office:</b> NTDP F232 <b>Office Hours:</b> Mo 10:00 AM – 12:00 Noon <b>E-mail:</b> TawfiqShah@my.unt.edu

### Topics

1. Principles of computer systems organization
2. Instruction sets
3. Computer arithmetic
4. Data and control paths
5. Memory hierarchies
6. Assembly language

### Learning Objectives

1. Understand the interface between software and hardware.
2. Be able to measure the performance of a computer system.
3. Understand the choice of instruction sets.
4. Understand and be able to write Assembly Language programs.
5. Understand computer arithmetic algorithms and ALU design, including floating point.
6. Understand and apply techniques in digital circuit design to the design of a single cycle simple processor.
7. Understand memory hierarchy and cache memories.

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### Tutoring

Should you miss a class session or not understand some of the material that was covered in class, I encourage you to stop by my office during my office hours (or make an appointment) to discuss any questions or concerns. If you are having difficulty completing an assignment on time and require additional assistance, you must contact the instructor *before* the due date.

### Course Policies

- Class attendance is regarded as an obligation as well as a privilege. All students are therefore expected to attend each class meeting. *A student who misses class is still responsible to find out what was discussed and to learn the material that was covered and obtain the homework that was assigned on the missed day.* The instructor is not responsible for re-teaching material missed by a student who did not attend class. Therefore, each student is accountable for and will be evaluated on *all* material covered in this course, regardless of attendance. Students with more than two (2) unexcused absences may be dropped from the course or have their grade lowered by one letter grade. The instructor will have the final say as to whether or not an absence is excused.
- All assignments must be completed and submitted according to their specific directives. Late submissions will incur a penalty of 25% per day.
- A make-up exam will be given at the discretion of the instructor when a student misses an exam with an excused absence. Unexcused absences on the date of the exam may result in a grade of 0 for the missed exam, so every effort should be made to attend class on the day of the scheduled exam.
- Cheating in exams/assignments, plagiarism in exams/assignments, collusion and falsification of academic records or the attempt to do these things constitute academic dishonesty. Students need to include proper citation for books and/or Internet based resources on their submissions. Any type of academic dishonesty will be handled immediately and strictly, resulting in a zero on the exam/assignment and an F in the class, and will be referred to the Dean for further disciplinary action.

### Grading Policy

Your course grade will be a weighted average according to the following:

Attendance/Participation	5.0%
Homework Assignments	40.0%
Project	15.0%
Exam 1	12.5%
Exam 2	12.5%
<u>Final Exam</u>	<u>15.0%</u>
Total	100.0%

Your letter grade for the semester will be determined as follows:

A = 90 – 100    B = 75 – 89    C = 60 – 74    D = 50 – 59    F = 0 – 49

Grades will be posted on Blackboard throughout the semester to provide an ongoing assessment of student progress, though final assessment will be measured using the weighted average above.

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### Disability Statement

The University of North Texas complies with Section 504 of the 1973 Rehabilitation Act and with the Americans with Disabilities Act of 1990. The University of North Texas provides academic adjustments and auxiliary aids to individuals with disabilities, as defined under the law. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please see the instructor and/or contact the Office of Disability Accommodation at 940-565-4323 during the first week of class.

### Classroom Civility Statement

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Center for Student Rights and Responsibilities to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at [www.unt.edu/csrr](http://www.unt.edu/csrr).

### Tentative Class Schedule

<b>Week</b>	<b>Date</b>	<b>Material Covered</b>	<b>Remarks</b>
<b>1</b>	6/2 – 6/6	Intro, Comp Abstract	
<b>2</b>	6/9 – 6/13	Comp Abstract, Instr Set	HW1
<b>3</b>	6/16 – 6/20	Instr Set, Comp Arithmetic	
<b>4</b>	6/23 – 6/27	Comp Arithmetic	<b>Exam 1</b> , HW2
<b>5</b>	6/30 – 7/4	CPU Design	
<b>6</b>	7/7 – 7/11	CPU Design	HW3
<b>7</b>	7/14 – 7/18	Mem Hierarchy	
<b>8</b>	7/21 – 7/25	Mem Hierarchy, Storage & I/O	<b>Exam 2</b> , HW4
<b>9</b>	7/28 – 8/1	Storage & I/O	Project
<b>10</b>	8/4 – 8/8	Review	<b>Final Exam</b>