

CS 3443: Computer Systems
Term Fall 2019
Meetings: Tues: 4.30-7.10 pm, NCB 248

Contact Information

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General Course Information

Pre-requisites, Co-requisites: CS 2113(Computer Science 1)

Course Description:

Functional and register level description of computer systems, computer structures, addressing techniques, macros, linkage, input-output operations. Introduction to file processing operations and auxiliary storage devices. Programming assignments are implemented in Assembly Language.

Required Text:

David Patterson and John Hennessy, *Computer Organization & Design*. The Hardware/ Software Interface, 5th edition, Morgan Kaufmann Publishers, 2013.
ISBN: 9780124077263

Suggested Text:

David M. Harris and Sarah L. Harris, *Digital Design and Computer Architecture*. Morgan Kaufmann Publishers.

Assignments & Academic Calendar

Week #	Day/ Date	Material to be Covered	Reading/ Homework
1	Aug 20	Introduction, Computer Abstractions and Technology -A simplified view of hardware and software as hierarchical layers - From a High-Level Language to the Language of Hardware -Performance	Chap 1: 1.3, 1.6, 1.10
2	Aug 27	Instructions: Language of the Computer (MIPS) Appendix A: Assemblers, Linkers, and the SPIM Simulator	Chap 2: 2.2 – 2.8, 2.10, 2.12 Appendix A
3	Sept 3	Instructions: Language of the Computer (MIPS)	Chap 2
4	Sept 10	Instructions: Language of the Computer (MIPS), Quiz 1	Chap 2
5	Sept 17	Instructions: Language of the Computer (MIPS)	Chap 2
6	Sept 24	- Test 1	
7	Oct 1	Arithmetic for Computers - Binary Addition and Subtraction - Multiplication - Division - Floating Point	Chap 3: 3.2-3.5
8	Oct 8	Arithmetic for Computers	Chap 3
9	Oct 15	Arithmetic for Computers, Quiz 2	Chap 3
10	Oct 22	The Processor: - An Overview of Pipelining - Data Hazards: Forwarding versus Stalling - Control Hazards	Chap 4: 4.5, 4.7 - 4.8
11	Oct 29	The Processor	Chap 4
12	Nov 5	Test 2	
13	Nov 12	The Processor	Chap 4
14	Nov 19	The Memory System: - Cache	Chap 5: 5.1, 5.3-5.4
15	Nov 26	The Memory System	Chap 5
16	Dec 3	The Memory System	Chap 5
	Final Exam	Dec 10	

Tests

There will be two Quizzes, two Tests, as well as a Final Exam. You will be allowed to use the MIPS Reference Card that is provided with the text book.

Quiz 1: Sept 10, 2019
 Quiz 2: Oct 15, 2019
 Test 1: Sept 24, 2019
 Test 2: Nov 5, 2019
 Final: Dec 10, 2019

Grading (credit) Criteria	<p>The grade will be determined as described below. No bonus work, make-up work, dropped scores, or other means of raising your grade should be expected.</p> <p>Quizzes: 10% Test #1: 15% Test #2: 20% Final Exam: 15% Assignments 35% Attendance: 5%</p> <p>There will be 8 assignments. Grades are assigned according to the following scale: [>=90%] A [80-89%] B [70-79%] C [60-69%] D [0-59%] F</p>
Make-up Exams	<p>Make-up exams are only given to those students who coordinate the missing of an exam prior to the originally scheduled exam date and time.</p>
Extra Credit	
Late Work	<p>Assignments are due in class/ online on the dates given. If a student submits an assignment after the due date without having made arrangements with the instructor, a minimum of 15 points (based on an assignment grading scale of 100 points) or 15 percent of the total points will be deducted for each day, or part thereof, that the assignment is late.</p>
Class Attendance	<p>Class attendance will be documented</p>

OSU Academic Integrity Policy:

OSU is committed to maintaining the highest standards of integrity and ethical conduct. This level of ethical behavior and integrity will be maintained in this course. Participating in a behavior that violates academic integrity (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information, helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, and altering academic records) will result in an official academic sanction. Violations may subject you to disciplinary action including the following: receiving a failing grade on an assignment, examination or course, receiving a notation of a violation of academic integrity on your transcript, and being suspended from the University. You have the right to appeal the charge. Go to <http://academicintegrity.okstate.edu/> for a video on OSU's academic integrity policy and additional information.