CSCI 330 Sec. 01 Computer Architecture TR 0930-1050 Lab 1050-1150, Room: LC 210

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Office Hours: M 1100-1200, TR 0740-0920, TR 1200-1350, and by appointment.

Textbooks:
Computer Organization and Design, David A. Patterson and John L. Hennessy, ISBN: 0124077269.

Github:
I drive most of my classes from github. Assignments and lectures are located on Github here: `https://github.com/csu-cs/csci-330-spring-2020`. If you are not able to view, please send me an email so I can grant you access.
Note: The content for this course in on Github!

Course Description: This course explores the interdependencies among assembly language, computer organization and design with a focus on the concepts that are the basis for current computer technology. Stored-program concept, computer arithmetic, datapath and control, microprogramming, logic design, truth tables, logic gates, programmable logic arrays, control, pipelining, the memory hierarchy, and caches.

Introduction: This course studies general principles and concepts of computer systems. First, you will learn the theoretical concepts of various kinds of computer components. Second, you will learn how to utilize these components to improve program performance. This course will cover:

- Boolean Algebra
- Digital Gates
- Logic Circuit
- The fundamentals computer components.
- Processor Architecture.
- Optimizing Program Performance.
- The memory Hierarchy.
- Measuring Program Execution Time.
- High Performance Computing.
- Improve student written and verbal skills.
- Increase student knowledge of ethical issues.

Course Objectives/Learning Outcomes: ABET Student Outcomes: The following student outcomes shall be supported by this coursework:

1. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
2. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
3. An ability to communicate effectively with a range of audiences.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

Teamwork: There is an expectation of teamwork in many of the class/lab projects. The professor will use his/her discretion as to the team membership and will direct teams to produce a single solution among the teammates. Teamwork is a highly valued skill in the workplace and society as a whole. Through these teamwork exercises the goal is to develop an understanding of what makes teams successful and to be able to function effectively as a teammate.

Attendance and Late Work: Since work will be handled through ScrumDo, the due dates are through the 4 iterations in Scrumdo. Please see Scrumdo for more details.

Midterm Grade:

Since I have to turn in midterm grades, I will tag the cards that count toward your midterm.

Grading:

Your grade is the sum of points earned divided by the amount assigned multiplied by 100 to get a percentage.

Grade Scale:

100 - 90	A
89 - 87	B+
86 - 80	B
79 - 77	C+
76 - 70	C
69 - 60	D
below 60	F

Tentative Schedule:

Week	Topic
1	Overview
2	Implementation Technologies
3	Latches and Flip-Flops
4	Standard Combinational Components
5	Computer Arithmetic
6	Circuit Optimization
7-8	The Processor (Chapter 4)
9	Spring break
11	Assembly
11-12	Memory (Chapter 5)
13	Parallel Processing (Chapter 6)
14	Misc Topic
15	Review/Presentations

Student Representatives: These are students who are designated by letter to represent the University on official business, e.g., athletic, music, and similar events. If officially scheduled absences cause these students to miss tests, assignments, and/or other similar academic activities, University policy allows these to be made up without penalty. In accordance with this policy, Student Representatives may opt to either make up tests prior to departure, or supplanting missed tests with the final exam grade. Final exams must always be taken prior to departure to avoid an Incomplete for the course. Scheduled assignments remain subject to the lateness policy and must be turned in before departure to avoid lateness penalties. Student Representatives are responsible to inform the instructor of official absences and to make all appropriate arrangements.

Extra Help: Dot not hesitate to come to my office during office hours or by appointment to discuss a homework problem or any aspect of the course.

Disability Services: If there is any student in this class who thinks they may have need of accommodations, they should review the requirements/procedures on Disability Services' website http://www.csuniv.edu/student-success/disabilityservices.php. Once a student has been approved to receive accommodations through Disability Services, they will need to contact this instructor. Nondiscrimination Policy and Student Rights Charleston Southern University does not illegally discriminate on the basis of race, color, national or ethnic origin, sex, disability, age, religion, genetic information, veteran or military status, or any other basis. Inquiries regarding the non-discrimination policies should be directed to Latitia R. Adams, Title IX Coordinator, 843-863-7374, ladams@csuniv.edu. Students should refer to the CSU Student Handbook (http://www.csuniv.edu/docs/studenthandbook.pdf) to be fully informed of their rights and remedies. Evaluations: In order to pursue our mission of 'Academic Excellence in a Christian Environment', it is important that we receive feedback from students to let us know how are doing. In order to save time and paper this process is online, and should be available sometime in the second half of the semester. Students are strongly encouraged to complete the short evaluation, which is entirely anonymous. Your professor will let you know when this is active, and you can then access it through your MyCSU account. We greatly value your opinion!

Academic Integrity: As a liberal arts university committed to the Christian faith, Charleston Southern University seeks to develop ethical men and women of disciplined, creative minds and lives that focus on leadership, service and learning. The Honor System of Charleston Southern University is designed to provide an academic community of trust in which students can enjoy the opportunity to grow both intellectually and personally. For these purposes, the following rules and guidelines will be applied. "Academic Dishonesty" is the transfer, receipt, or use of academic

information, or the attempted transfer, receipt, or use of academic information in a manner not authorized by the instructor or by university rules. It includes, but is not limited to, cheating and plagiarism as well as aiding or encouraging another to commit academic dishonesty. "Cheating" is defined as wrongfully giving, taking, or presenting any information or material borrowed from another source - including the Internet by a student with the intent of aiding himself or another on academic work. This includes, but is not limited to a test, examination, presentation, experiment or any written assignment, which is considered in any way in the determination of the final grade. "Plagiarism" is the taking or attempted taking of an idea, a writing, a graphic, music composition, art or datum of another without giving proper credit and presenting or attempting to present it as one's own. It is also taking written materials of one's own that have been used for a previous course assignment and using it without reference to it in its original form. Students are encouraged to ask their instructor(s) for clarification regarding their academic dishonesty standards.

Course Evaluations: CSU collects course evaluations via the web. Instructions on how to access this system and how to evaluate the course will be available midway through the class. I encourage you to take this seriously and provide constructive feedback for improving the class.

Important Dates:

Drop/Add Deadline	January 17
End of regular work	March 20
End of final work	TBD