

CSCE 230: Computer Organization Spring 2012 Syllabus

Catalog Course Description:

Prereqs: A grade of 'P' or 'C' or better in CSCE 155A, CSCE 155E, CSCE 155H, CSCE 155N, or CSCE 155T or equivalent knowledge of a high-level programming language; parallel CSCE 230L.

ACE SLO 8 is met if CSCE 230 and either CSCE 486 or CSCE 488 is completed.

Introduction to organization and structure of computer systems. Boolean logic, digital arithmetic, processor organization, machine language programming, input/output, memory organization, system support software, communication, and ethics.

Honors Credit for the course is available on a contract basis. See me during the first week, if you are interested.

Instructor: Sharad C. Seth, Avery Hall, Room 359

Phone: 472-5003

Email: seth at cse dot unl dot edu

Office Hours: (I encourage you to visit me in my office early in the semester so that I get to know you better.)

Teaching Assistants, Responsibilities, and Office Hours:

Jake Schmitt (jschmitt) 230 Grader Off. Hours: TBA	Dane Seaberg (dseaberg) 230 Rec., 230L lab Off. Hours: TBA	Dongpu Jin (dj in) 230L lab assistant Off. Hour: Tues. 9:30- 10:30 @SRC
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Required Textbook: C. Hamacher, Z. Vranesic, S. Zaky, and N. Manjikian, *Computer Organization and Embedded Systems*, 6th edition, McGraw Hill, 2011. The earlier editions exclude a lot of the material that will be used in the class hence **be sure to get the 6th edition**. [Publisher's information page for the textbook](#), includes only basic information.

Course Grading:

You will receive separate grades for the lecture (230) and the lab (230L) courses. The grading policies for 230L will be announced in the lab. The grade for the lecture course is apportioned as follows:

(20%) Homework

Along with Quizzes, Homework is intended to be the primary means of feedback to me on how well you are learning the material covered in the class. I endorse peer study as an effective learning tool and encourage you to discuss homework problems in groups. However, after the discussion, I expect you to write the solution **in your own words** (copying some one else's solution is plagiarism and violates the academic integrity policy of the Department).

Some assignments given in the Recitation (to satisfy ACE SLO 8 requirements) will also count as homework. On average you can expect a homework assignment every other week. TAs and I can help with clarifying any questions you may have about homework.

(20%) Group Project: Completed in groups, the project will involve the design, implementation, and testing of a processor implementing a subset of the instructions found in modern processors. You may be asked to complete several component parts before integrating them into your final design. The project provides an excellent opportunity to put into practice what you will learn in this course and the associated 230L lab. Each group will be asked to make a written and oral report of the work done for the project.

(20%) Tests: These will be announced at least a week in advance, along with their scope. Expect at least two 50-minute tests.

(15%) Midterm exam: The schedule and scope will be announced at least a week in advance.

(10%) Quizzes: These short-term quizzes are aimed to provide quick feedback to me (and you!) about how well you understand the material being discussed in the class. If you consistently perform poorly in these, I expect you to seek extra help from the TAs or me. Note that the Progress Assessment Test (PAT) for this course, that the Department uses for its program assessment and that you take towards the end of the semester, will be counted as one of quizzes. This is a freebie as your PAT grade is based entirely on participation and not on performance.

(15%) Final exam: This will be a cumulative exam given during the scheduled time for this course. The scope will be announced during the last week of classes.

Extra Credit: You may earn extra credit for Effort (seeking help, attending recitations, completing all homework, doing well in pop quizzes), Participation (attending lectures, asking good questions in class), and Altruism (helping others in recitation or by posting responses to questions; bringing to my attention good websites, animations, etc that would enhance the classroom experience for this course). Substantial EPA credit can earn you an extra half letter grade (e.g. from B- to B) at our discretion.

Waivers: Your lowest homework, quiz, will be dropped in computing the grade. The lowest test grade may also be dropped at our discretion. You may miss at most one quiz or homework and have it count toward your waiver.

Conversion to Letter Grade:

A+	A	A-	B+	B	B-	C+	C	C-	D	F
97-100	93-96	90-92	87-89	83-86	80-82	77-79	73-76	67-72	60-66	<60

Policies:

Late Work: All work must be completed when due and all tests/quizzes must be taken when given. As a rule, I will not accept any late work nor allow you to take a test/quiz at another time.

Attendance: You are expected to attend all the classes and must provide a reason for missing a class **before** the class. Absences are excused only in case of an emergency with valid documentation. Up to two absences can be excused without prior permission. Beyond that all absences will be subject to penalty at the instructor's discretion. *As a courtesy to other students, be sure to arrive in time for each class.*

Academic Integrity: Cheating or plagiarism is a very serious offense and the CSE Department has laid down strict guidelines for dealing with this problem. The penalty for cheating may include an automatic F grade for the course and expulsion from the program. The Department requires me to report every offense to the Chair for further consideration.

Students with Disabilities: Let me know if you have any learning disability and I will do my best to accommodate you.

Cell Phones, Laptops, iPod: **Turn off or silence your cell phone at the beginning of the class. Do not use laptops or iPods during the class** unless I explicitly allow you to do so.

ACE Compliance:

This course includes material to help satisfy ACE Student Learning Outcome (SLO) #8 on ethics, civics, stewardship, and their importance on society. Aspects of these topics are woven into (a) a homework assignment requiring analysis of real-life ethical dilemmas (b) the technical report of the group course project on the design and implementation of a central processing unit, and practice of the code of conducts (civics) in teamwork and research-and-development of project solution, and (c) an individual oral presentation on a topic dealing with broad historical and societal issues related to the computer technology, providing stewardship training regarding responsibilities as an engineer. These topics are as important as the technical material you learn in the course. As a practicing computer scientist or computer engineer you will need to master both technical approaches and an understanding of your responsibilities to society in using those approaches (stewardship). As part of the overall course grade, you will be assessed on your participation in discussions, your project report demonstrating best practices in communication, and how you practice ethical principles in the way you present your work and acknowledge the work of others.