

**Instructor**

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**Meeting Time**

Lecture: 10:00–11:47 AM on TR in MSC 372.

Office Hours: 5:20–6:20 PM on MW, after lectures, and by appointment.

**Textbook**

I. Englander, *The Architecture of Computer Hardware, Systems Software, and Networking: An Information Technology Approach*, Fifth Edition, Wiley, 2014. No other edition is recommended.

**Course Description**

Introduction to computer systems. Topics cover computer system components including hardware components, storage devices, memory, graphics accelerators, device and communications interfaces, and, CISC and RISC processors, operating systems and network operating systems. Issues in cost, performance, security, and compatibility are also considered. *Prerequisite*: CIT/CSE 230.

**Note:** *Those who have not taken the prerequisite or its equivalent will not get any credit for this course.*

**Course Objectives**

Upon successful completion of the course students will be able to:

- describe the key working principles of modern computer systems (ABET: a, b, i, j)
- determine the sub-systems necessary in a computer system (ABET: a, b, i, j)
- describe the role of different components of system software (ABET: a, b, i, j)
- appreciate the important issues in reliable and high-performance computing (ABET: a, b, i, j)
- select computer systems for specific tasks (ABET: a, b, i, j)

**Evaluation and Grading**

Students will be evaluated based on the following components with the given weights:

15%	—	Homework and Quizzes
20%	—	Term Paper
30%	—	Midterm
35%	—	Final Exam

Policy for converting total points to grades: grade 4.0 corresponds to 100% points, grade 1.0 corresponds to 50% points, and the scale is linear between grades 1.0 and 4.0. The grading scheme will be modified at the instructor's discretion if the average grade of the class becomes very low.

## When and Where

Please visit <https://oakland.edu/registrar/important-dates/> for many important dates of the semester. A tentative schedule of different activities of the course is as follows:

- *Homework*: Will be assigned about six days before the due dates.
- *Quizzes*: Unannounced quizzes will be given at the beginning or end of some lectures based on materials previously presented.
- *Term Paper*: TBA.
- *Midterm*: Will be held on 2/15 in the classroom during lecture hours.
- *Final Exam*: Will be held on 4/19 in the classroom starting at 8:00 AM. You will need your Grizzly ID Number.

If the class cannot meet on any of the scheduled days, the missed activity will be held at the same time during the next class meeting.

## Homework Assignments

Understanding of the concepts discussed in the course can only be reinforced by solving problems. Students are expected to solve all the homework problems and to submit on the due dates. LATE HOMEWORK WILL NOT BE GRADED.

Homework solutions must be neatly prepared on one side of the loose-leaf letter-size white paper with appropriate margins; use of ripped out notebook paper is discouraged. All the pages should be sequentially numbered and securely stapled with student's name, course number, and homework number written at the top of the first page. Handwritten solutions are acceptable.

Homework will be *spot* graded, i.e., the points a student will receive for a set will be determined by the completeness of the submission and by the correctness of only a selected few problems from the set.

## Term Paper

Students will do an independent research in a small group (e.g., team of two) and write a term paper, which may cover any topic under the broad area of computer systems. It needs not to be a topic discussed in the class. The goal of the term paper is to conduct an in-depth study of a particular topic and present the topic in a cohesive manner. A report and a presentation will be due at the end of the semester. The paper should be roughly five pages in length when list of references is excluded. Format of the paper: two-column, 1/2" margin, single spaced lines, 10 point times roman font. You are encouraged to start thinking of topics of interest early.

## Midterm and Final Exam

The midterm and final exam will be closed books and notes with no crib sheet. Calculators that can store texts and diagrams will be disallowed. All the materials covered by the lecture till the day of a midterm will be included in the midterm, and the final exam will cover all the materials introduced in the class. Graded test paper will be recollected immediately after returning. THERE WILL BE NO MAKE UP TEST OR EXAM, unless such a request is supported by a valid and verifiable reason such as a medical emergency.

## **Attendance**

Everyone is recommended to actively participate in the class. The instructor will not monitor class attendance but it is students' advantage to attend the lectures. Late arrival and side talking are strongly discouraged. Students are responsible for knowing all the verbal and written information provided by the instructor, including those are provided through electronic means.

## **Use of Electronic Devices**

Students who want to use electronic devices such as iPad, laptop computer, etc. to take class notes should sit in the center area of the very front rows. They should prepare in advance so that the devices can be used without being connected to an electrical outlet. Anyone who wants to use electronic devices for any other purpose should step out of the classroom. Electronic devices such as smartphones or other texting devices should be put in vibration mode and kept out of sight of the student. Internet connections to all electronic devices should be turned off during the lecture. If you require an exception of this policy please talk to the instructor.

## **ADA Notice**

Students with disabilities who may require reasonable accommodations should contact Oakland University's Disability Support Services office for assistance. DSS office is located at 121 NFH, and their contact information is as follows. Phone: (248) 370-3266; TTY: (248) 370-3268; Fax: (248) 370-4989; E-mail: [dss@oakland.edu](mailto:dss@oakland.edu).

## **Academic Conduct and Classroom Policy**

Students are expected to comply with the Academic Conduct Policy of the Oakland University. Suspected breaches of academic honesty will be taken before the Academic Conduct Committee. Academic misconduct includes—but not limited to—cheating in quizzes and exams, unauthorized collaborations in assignments, and plagiarizing the work of others. Students found guilty of academic misconduct in this course will receive a grade 0.0 for the course in addition to any penalties imposed by the conduct committee. Please refer to the undergraduate catalog as well as on-line Academic Conduct Regulations from <http://www.oakland.edu/studentcodeofconduct> for details. Violations of classroom policy will be reported to the Dean of Students.

## **ABET Student Outcomes: Information Technology**

Student outcomes are a set of skills that prepare graduates to attain the program educational objectives which are consistent with the mission of the institution and the needs of the program's various constituencies.

- a. An ability to apply knowledge of computing and mathematics appropriate to the discipline.
- b. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
- c. An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs.
- d. An ability to function effectively on teams to accomplish a common goal.
- e. An understanding of professional, ethical, legal, security, and social issues and responsibilities.
- f. An ability to communicate effectively with a range of audiences.

- g. An ability to analyze the local and global impact of computing on individuals, organizations and society.
- h. Recognition of the need for, and an ability to engage in, continuing professional development.
- i. An ability to use current techniques, skills, and tools necessary for computing practice.
- j. An ability to use and apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, and web systems and technologies.
- k. An ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.
- l. An ability to effectively integrate IT-based solutions into the user environment.
- m. An understanding of best practices and standards and their application.
- n. An ability to assist in the creation of an effective project plan.