
Course Information

Instructor:	Prof. Kevin Fu Room CS 230, 545–4006, kevinfu@cs.umass.edu Office Hours: Tuesdays 10:45–11:45AM or by appointment
Teaching Assistant:	Tom Billings Room LGRT 220, billings@cs.umass.edu Office Hours: TBD
Staff email list:	cs201-staff@cs.umass.edu
Web page:	http://prisms.cs.umass.edu/cs201/

1 Overview

Welcome to CMPSCI 201, Architecture and Assembly Language. This handout attempts to answer frequently asked questions about the course.

This course provides an introduction to the architecture and machine-level operations of modern computers at the logic, component, and system levels. Topics include integer, scaled, and floating point binary arithmetic; Boolean algebra and logic gates; control, arithmetic-logic, and pipeline units; addressing modes; cache, primary, and virtual memory; system buses; input-output and interrupts. Simple assembly language for a modern embedded processor is used to explore how common computational tasks are accomplished by a computer.

Intended audience. This 4-credit course is intended for undergraduate Computer Science and Computer Engineering majors. We expect the average student to spend an average of 8–10 hours outside of lecture and discussion per week. But this workload may vary depending on your background. Some weeks will have more deadlines than others, so plan ahead.

Prerequisites. CMPSCI 187 (Programming with Data Structures) or ECE 242 (Data Structures and Algorithms in Java) or equivalent.

Lectures and discussion sections. Lectures will be held in ELAB 304 on Tuesdays and Thursdays from 9:30–10:45AM. Show up on-time with proper tools for note taking. Use of laptop computers in class may be restricted if the lecturer finds it distracting. A schedule of topics will be posted on the Web.

Discussion sections will be held in CMPS 142 from 10:10–11:00AM (TA: Tom Billings). Many activities will involve team-based lab work on electronics. Note that your participation in the discussion section is part of your final grade.

Textbook and reading. The textbook for the course is *Introduction to Computing Systems: From Bits & Gates to C & Beyond, 2nd edition* by Patt and Patel. Notify the course staff if you have trouble locating the book. We will assign reading and homework from both the book and supplementary materials distributed during lecture and discussion.

Lab kits. We will provide special electronic equipment and components for lab work. Do not lose the materials. Each station is worth \$100. You will sign for this equipment and will be held responsible for returning the equipment before the final exam. You must return the equipment to receive a final grade.

2 Grades and Methods of Evaluation

Final grades will be based on the following:

Homework	20%
Lab work & programming assignments	25%
Two in-class exams	25%
Final exam	25%
Class participation	5%

Homework. We will distribute homework assignments almost every Thursday in lecture. It is due *before* the start of your discussion section on Fridays a week later. Assignments will vary by topic, but may include questions from the book, programming, lab work, and essay writing.

We encourage the open discussion of material from lecture and discussion sections; however, we **strictly forbid** the discussion or sharing of actual solutions. These verboten activities include the copying of solutions from other students, from materials found online, or materials from previous semesters. See our full anti-plagiarism policies at the end of this document.

Programming assignments. We will assign individual programming assignments. You have an EdLab account available for computer exercises. The rules, procedures, and anti-plagiarism policies for submitting solutions is the same as the traditional homework assignments.

Lab work. A major part of this course includes lab work to gain experience with real computer architectures. We will assign you to a team of students to build such computing systems. One goal of this course is to expose you to the realistic joys and challenges of working in teams. As such, you will be responsible for organizing team meetings around your many schedule constraints. Effective teamwork is essential. We will choose your team.

Submission procedure. You must submit your work via Edlab or in person to the TA **before** discussion begins. We do not accept homework, labs, or programming assignments by any other means (e.g., email does not count). Check with the TA regarding file formats that are accepted. If you have special circumstances and wish to request deviation from this submission procedure, consult with the TA well ahead of the deadline. Last minute requests will not be looked upon favorably.

Exams. There will be two in-class exams tentatively scheduled for (**Tuesday, March 2 and Tuesday, April 6**). There will be a final exam. Exams are closed book. Calculators and other computing devices are **not allowed**. See the oral examination policy regarding excused absences from an exam.

Class participation & pop quizzes. Participating during lecture and discussion will help your class participation grade. Discussion sections will offer further interaction with an emphasis on practice and examples. Occasional pop quizzes in lecture and discussion will also contribute to your class participation grade.

3 Policies

We will respect general university policy on class absences¹ to ensure you follow correct procedure for obtaining excused absences.

Lateness. Each student is granted **one “penalty free” late pass** for the individual homework or programming assignments. You need not provide any excuse. A free late means you may turn in the homework or programming assignment before the **next class** without penalty (typically a Tuesday). We are strict about the deadlines; once discussion begins, your homework or programming assignment is late. TAs do not have the authority to grant further extensions or waivers. Any late homework beyond your one freebie will earn a grade of **zero**. If you expect to be away during a deadline, you should submit your problem set early to the TA. Otherwise, use your one late freebie.

A late freebie may **NOT** be used for any of the labs or exams.

Budget your freebie carefully! If you use it up early in the semester, you may find yourself wishing you had held on to it until a more important schedule conflict.

Oral exams. If you are unable to attend an exam, you may **pre-arrange** an oral examination. Note that sleeping through an exam does not qualify, and you would receive a grade of zero (you must pre-arrange). Informing the instructor after the missed exam that you had an extracurricular activity would earn you a grade of zero (you must pre-arrange). Unless you obtain an excused absence per university policy (see footnote), you may not arrange for an oral exam after the exam begins.

3.1 Collaboration and plagiarism

CMPSCI 201 uses an anti-plagiarism policy borrowed from CMPSCI 377. If you have any questions as to what constitutes unacceptable collaboration, please talk to the instructor right away.

Plagiarism and other anti-intellectual behavior will be dealt with severely. Investigating plagiarism is a pleasant experience for neither the instructor nor the student. Please help us by avoiding any questionable behavior.

You may not collaborate in any way when constructing your solutions; you must work alone on your solutions. All homework and lab projects in this course are to be done by you. Violation will result in a zero on the assignment in question, probable failure in the course, and initiation of the formal procedures of the University. We do check for plagiarism.

You are not allowed to look at or in any way derive advantage from the existence of solutions prepared elsewhere. You may not look at code prepared by someone else for the programming assignments. You may not purchase solutions off the Internet or hire people to do the assignments.

¹http://www.umass.edu/registrar/gen_info/class_absence.htm

We consider the facilitation of plagiarism (giving your work to someone else) as plagiarism as well. Showing your solution to another student is considered facilitating dishonesty and you will be referred to the Academic Honesty Board. This can result in holding up your graduation, or having a notation put on your transcript.

You are expected to exercise reasonable precautions in protecting your own work. Do not let other students borrow your account or computer, do not leave your program in a publicly accessible directory, and take care when discarding printouts.

Acts of cheating and plagiarism will be reported to the University Academic Honesty Board. You are responsible for knowing, and will be held to, the University Academic Honesty Policy. This policy is available online:

http://www.umass.edu/dean_students/codeofconduct/acadhonesty/

But we encourage responsible discussion. Discussion of course material is not considered cheating and is strongly encouraged. If you receive substantial help from another person other than the instructor or TAs, you must acknowledge them in your work. If you use any published or unpublished source in any of your own work, you must give full citation. If you have questions about these policies please see the instructor.

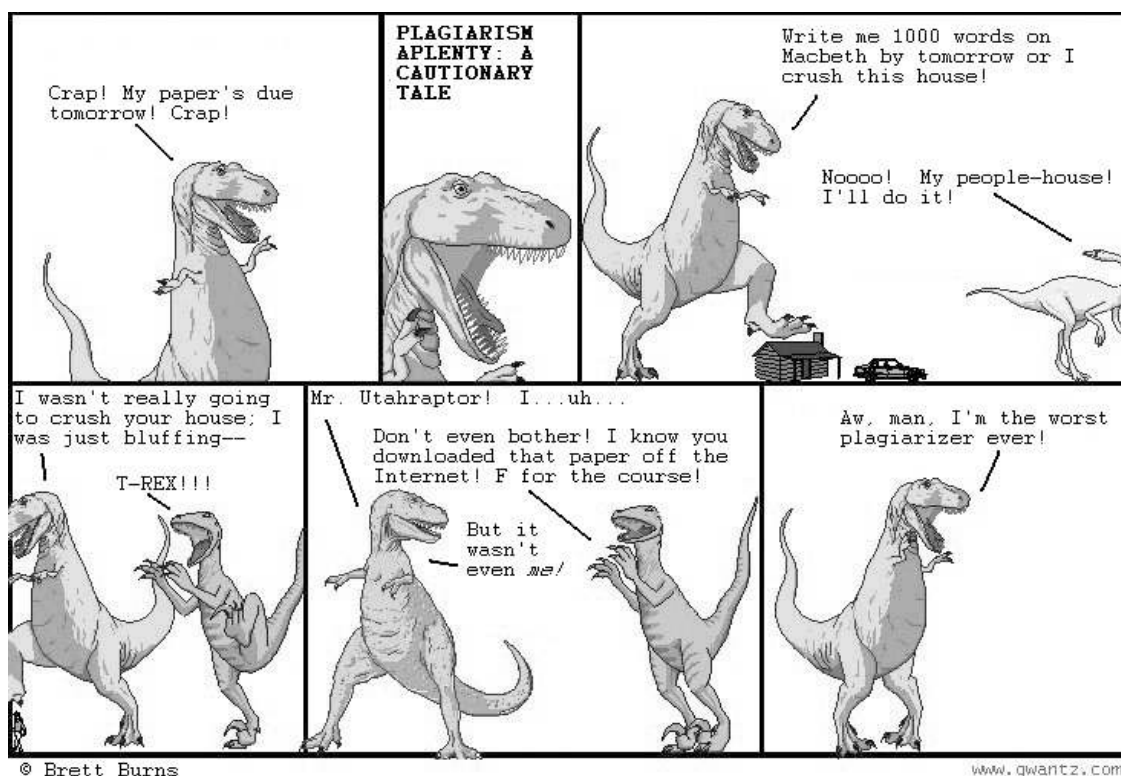


Figure 1: Dadasaurus Rex. Reprinted with permission from Leonard Richardson (<http://www.crummy.com/features/dada/>).