

# CSC 454: Computer Architecture and Assembly Language

## Fall 2014

### Instructor

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### Office hours:

Monday-Friday 8:30-10:00

Tuesday, Thursday 1:00-3:00

### Text:

Patterson and Hennessy, Computer Organization and Design, 5<sup>th</sup> edition. Morgan Kaufman

### Course Objectives:

- To provide an in-depth treatment of computer architecture, including digital logic, digital systems, computer pipelines, memory organization and processor design, both single and multi-core.
- To gain further understanding of computer organization and architecture by studying the MIPS assembly language and writing and analyzing programs using the SPIM simulator.
- To gain a better overall perspective of the interrelationship between computer architecture and other aspects of computer science including compilers, operating systems and programming.
- To gain an understanding of the tradeoffs considered when designing for increased performance including parallelism, power, convenience, and cost.

### Course Learning Outcomes:

Students will analyze the interaction between hardware and software. Students will collaborate effectively in teams.

### Course Organization:

**Lectures:** Cover the highlights of chapters assigned – not a substitute for reading. PowerPoint slides found on Canvas

**Homework/ Homework quizzes:** Homework will be graded in class. Homework grades will be based on having your homework finished at the beginning of class or lab on the due date, and on a quiz that will be administered after the homework is graded. An exceptional explanation of a homework problem could exempt you from the quiz for that day. While **late homework is not accepted, and quizzes cannot be made up**, each student will be allowed to drop 1 homework/quiz grade.

**Exams:** There will be 2 exams. Exams will cover lecture as well as lab material. The first will cover chapters 1, 2 and Appendix A. The second will cover Appendix B and chapters 3 and 4. Students missing a midterm exam for a school function must arrange to take the exam in advance. **Exams are currently scheduled for Oct. 1 and Nov. 14.**

**Labs and Lab Projects:** Labs will be demoed at the beginning of the lab period at which they are due. Discussion of lab assignments is allowed, however, each individual must turn in his/her own work. If I suspect collaboration, where not explicitly permitted, I will interview each of the individuals involved. If any of the involved students is unable to adequately answer my questions regarding the lab, disciplinary action will be taken against all students involved. The grading method for each lab will be discussed when the lab is assigned.

**Final Exam:** Cumulative exam covering lecture and lab material. The Final exam is scheduled for **Monday of finals week at 1:30 P.M.** The final exam date and time is set by the university at the beginning of the semester and may not be changed by the instructor. Only in the case that a student is required to take three

exams during the same day of finals week is an instructor authorized to change the exam date and time for that particular student.

### **Grading:**

Homework/Quizzes	15%	Exams	30%
Labs	30%	Final Exam	25%

Final grades will be determined as follows:

100-93%	A	80-82%	B-	67-69%	D+
90-92%	A-	77-79%	C+	63-66%	D
87-89%	B+	73-76%	C	60-62%	D-
83-86%	B	70-72%	C-	0-59%	F

### **Attendance:**

Attendance is expected at each class session. In the event of an absence you are responsible for the material covered in class and the assignments given that day.

Regular and punctual attendance at all classes in which a student is registered is considered essential to optimum academic achievement. Therefore, regular attendance and participation in each course are minimal requirements to be met. There are no allowed or excused absences except as approved in writing by the Provost for specific students participating in certain university-sanctioned activities. Excused absences still count toward the 10%-20% limits, but allow students to make up work, quizzes, or tests missed as a result of a university-sanctioned activity. Activities of a unique nature, such as labs or other activities identified clearly on the syllabus, cannot be made up except in rare instances when instructors have given advanced, written approval for doing so. Whenever the number of accumulated absences in a class, for any cause, exceeds ten (10) percent of the total number of class meetings, the faculty member should send an e-mail to the student and the Vice Provost for Academic Administration (VPAA) warning of attendance jeopardy. If more than twenty (20) percent of the total number of class meetings is reported as missed, the faculty member or VPAA may initiate the student's de-enrollment from the course without further advanced notice to the student. If the date of de-enrollment is past the last date to withdraw from a class, the student will be assigned a grade of W or WF consistent with university policy in the Grading section of the catalog. There are no refunds for courses where a de-enrollment was processed. For more details see the PLNU catalog:

[http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Class\\_Attendance](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Class_Attendance)

### **Class Enrollment:**

It is the student's responsibility to maintain his/her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.

### **Academic Accommodations:**

While all students are expected to meet the minimum academic standards for completion of their courses as established by the instructors, students with special needs may require academic accommodations. At Point Loma Nazarene University, students requesting academic accommodations must file documentation with the Disability Resource Center (DRC), located in the Bond Academic Center. Once the student files documentation, the Disability Resource Center contacts the student's instructors and provides written recommendations for reasonable and appropriate accommodations to meet the individual needs of the student. This policy assists the university in its commitment to full compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities (ADA) Act of 1990, and ADA Amendments Act of 2008, all of which prohibit discrimination against students with special needs and guarantees all qualified students equal access to the benefits of PLNU programs and activities.

For more details see the PLNU catalog:

[http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic\\_Accommodations](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic_Accommodations)

**Students with learning disabilities who may need accommodations should discuss options with the instructor during the first two weeks of class.**

### **Academic Honesty:**

The Point Loma Nazarene University community holds the highest standards of honesty and integrity in all aspects of university life. Any violation of the university's commitment is a serious affront to the very nature of Point Loma's mission and purpose. Violations of academic honesty include cheating, plagiarism, falsification, aiding academic dishonesty, and malicious interference. The details of PLNU's meaning of each of these words can be found in the PLNU catalog at:

[http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic\\_Honesty](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic_Honesty)

A student remains responsible for the academic honesty of work submitted in PLNU courses and the consequences of academic dishonesty beyond receipt of the final grade in the class and beyond the awarding of the diploma. Ignorance of these catalog policies will not be considered a valid excuse or defense. Students may not withdraw from a course as a response to a consequence.

A student who is caught cheating on any item of work will receive a zero on that item and may receive an "F" for the semester. See the PLNU Catalog for a further explanation of the PLNU procedures for academic dishonesty ([http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic\\_Honesty](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic_Honesty)).

### **Final Exam: Date and Time**

The final exam date and time is set by the university at the beginning of the semester and may not be changed by the instructor. Only in the case that a student is required to take three exams during the same day of finals week is an instructor authorized to change the exam date and time for that particular student.

### **Copyright Protected Materials**

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