CDA3101 Computer Organization II
General Information
Spring 2015
Tuesday and Thursday 8:00am-9:15am

Instructor: David Whalley
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Phone: 644-3506
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Office Hours: 1:00pm-2:30pm Tuesday and Thursday

TA: Suhib Kiswani
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Office Hours: 2:00pm-4:00pm Wednesday

TA: Zachary Yannes
Office: 170 Love
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Office Hours: 10:00am-12:00pm Tuesday

Recitations: Suhib Kiswani, 10:10am-11:00am Monday, 301 Love
Suhib Kiswani, 8:00am-8:50am Wednesday, 301 Love
Zachary Yannes, 8:00am-8:50am Friday, 301 Love
Zachary Yannes, 11:15am-12:05pm Friday, 301 Love

Prerequisites: CDA3100 (Computer Organization I)
COP3330 (Object-Oriented Programming)
MAD2104 (Discrete Math I)

Text: D. Patterson and J. Hennessy. *Computer Organization and Design: The Hardware/Software Interface. Fifth Edition.*

Class Homepage: The class home page is at http://www.cs.fsu.edu/~whalley/cda3101.html. The page will contain a variety of information, which will include the syllabus, schedule, slides, and assignments, that will be updated regularly during the semester.

Course Overview: CDA3101 is a core course intended for CS and CE majors with a background in C/C++ programming. This course introduces concepts that include processor datapath and control, pipelining, memory hierarchy, virtual memory, and input/output.

Course Objectives: A student who has completed this course with a passing grade should be able to:

(1) Calculate various simple measures of associated with a computer.

(2) Translate simple assembly instructions into corresponding machine code instructions.

(3) Decode simple machine code instructions and simulate their execution.

(4) Enhance the datapath and control for a simple single cycle, multicycle, and pipelined processors to provide additional functionality.

(5) Determine when instructions go through the various stages of a simple pipeline.

(6) Determine the results of simple branch predictors and how to update the state of these predictors.

(7) Determine when cache accesses hit or miss and how their state is updated.

(8) Determine how virtual addresses are translated to physical addresses through the use of a page table and translation-lookaside buffer.

Slides: There is a lot of material to cover in this class. Lecturing from slides will allow me to cover the material at a more rapid pace. I will be presenting slides that I have developed and slides of figures and tables from the

text. The pdf for the slides I have developed for the class will be made available from the class homepage prior to their presentation.

Assignments: You will be assigned several exercises and some programming projects. All programming projects will be tested on `linprog` using Unix. All assignments are to be completed individually by each student.

Grading: There will be three exams (60% of total) and various projects (40% of total). Keep all graded material to provide evidence of grades. A final comprehensive exam may be given in place of the third exam.

Attendance and Punctuality: You are responsible for all material presented in class. Exams and due dates will be scheduled in advance. A grade of zero will be recorded for missed exams and late assignments unless prior arrangements are made or the absence is excused. Assignments turned in after the due date, but by the beginning of the next scheduled class will be penalized 10%. Assignments will not be accepted that are more than one class period late.

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse.

Cheating: Students are encouraged to discuss assignments in general and to help one another understand the assignment by answering simple questions. Copying another's solution or working together on a solution is cheating. For the programming assignments, you should keep listings to provide evidence of creative development.

Class Behavior: Students are expected to refrain from carrying on side conversations or other distracting behavior in class, and that violations of this policy will result in expulsion from the classroom.

Academic Honor Policy: The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "... be honest and truthful and ... [to] strive for personal and institutional integrity at Florida State University." Florida State University Academic Honor Policy, found at http://fda.fsu.edu/Academics/Academic-Honor-Policy.

Americans with Disabilities Act: Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; and (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class. This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
sdrc@admin.fsu.edu
http://www.disabilitycenter.fsu.edu/

Syllabus Change Policy: Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.