CS 320 – Computer Organization and Architecture - Spring 2016

Instructor
Bill Cheng, phone 453-6055, billcheng@cs.siu.edu

Office Hours
MW 9am – 10am, FANER 3043
MWF 1pm – 2pm, FANER 3043

TA
Inumpudi, Swathi

Lectures
MWF 11am – 11:50am, ENG A310

Textbook
Assembly Language for x86 Processors, 7/E, by Kip R. Irvine

Grading Policy

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<td>Mid-Term</td>
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<tr>
<td>Comprehensive Final</td>
<td>35</td>
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<tr>
<td>Assignment</td>
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<td>Attendance</td>
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<td>In Class/Lab Assignments</td>
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<td>Project</td>
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Grade Score

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<td>B</td>
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<td>F</td>
<td>&lt; 50%</td>
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[ = inclusive     ) = exclusive

Mid-Term
Wed Mar 9, 2016 11am – 11:50pm, ENG A310

Comprehensive Final
Fri May 13 2016 10:15am – 12:15pm, ENG A310

Goals of the Course

- To provide a basic understanding and the fundamentals of computer architecture, logic gates and x86 assembly language.
- To look at high level language from assembly point of views.
- To obtain a good foundation for further study in computer science.

Course Topics

1. Digital logic
2. Boolean algebra minimization.
3. Logic gates, Flip-Flop, Counter and Demultiplexor
4. CPU: ALU and CU
5. x86 Assembly Language
   a. Address and data bus
   b. Code and memory organization
   c. Instruction set

6. High Level Language Interface

Important Course Information

- Attendance at the lectures is considered a critical part of this course. Not only will absences likely impact the quality of your work, frequent absences may result in points being deducted from your cumulative score (which may lower your final grade).
- While most of the course topics will be covered in class, and there is a great deal of online material about Java programming, you are still expected to read the assigned sections in the required textbook. Because of time limitations, not everything you should learn from this class can be covered in the lectures. You may be tested on assigned material in the text even if it has not been discussed in class.
- Most of the course grade will be based on the exams, and students will be required to write code on the exams. Don’t expect to get a good grade for the course if you do well on the labs and homework, but then do poorly on the exams.
- Project will not be accepted late in this class, so start early. The only possible exceptions will be in the case of serious illness or a comparable excuse, at the discretion of the instructor. Makeup exams will not be offered except under very exceptional circumstances.
- Programs that do not compile or do not run at least partially, will generally not be graded (i.e., we will not grade by examining source code). Such submissions will be assigned a score of 0. No appeals. Again, start your assignments early enough so you are not faced with a 99% complete program that nonetheless receives a zero.
- You will be instructed as to how to submit your assignments and project electronically. However, you still need to turn in the hard-copy of your assignment latest by the due date before the class starts.

Cheating

- When students work collaboratively on a programming assignment, it is nearly always the case that some team members will not learn everything they should from the assignment, and team grades will not reflect what every team member has learned. Thus, unless you are told specifically that you may collaborate on an assignment, all homework in this course are expected to be done independently! If you receive any substantive assistance from fellow students, friends, computer support personnel, or from code you find on the web, you will be considered to have cheated. If you have questions about an assignment, talk with the instructor or the TA only.
- Students caught cheating will receive zeros for the assignment. Second infractions may result in an ‘F’ for the course and lead to suspension from taking CS courses or even suspension from SIUC. This policy will be announced in class, and you will considered to be aware of it if you continue to be enrolled in the course.
Likewise, you are not to provide substantive support to a classmate: the person providing this type of assistance will be considered just as guilty of cheating as the person receiving the assistance! In general, you should not discuss methods for accomplishing the assignments with other students.

The main point of homework is to get student to practice the material so that they do well on the exams. While cheating may get you a higher homework/lab score, you will almost certainly perform much worse on the exams, so in the long run having cheated will harm you rather than help you. It is better to struggle with an assignment and get a 50% but learn something, than to turn in somebody else’s work and get 100% but learn nothing. Your grade is mainly going to be determined by your exam performance!

Emergency Procedures
Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT’s website at www.bert.siu.edu, Department of Safety’s website www.dps.siu.edu (disaster drop down) and in Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency. The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.