Spring 2016 - CSE220 System Fundamentals I

Lecture 01  
Instructor: Professor Jennifer Wong-Ma  
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Office Hours: Mon & Thurs 1-3pm

Lecture 02  
Instructor: Professor Kevin McDonnell  
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Office Hours: Tue 3-5 pm, Wed 10am-12pm

Course Homepage: http://www.cs.stonybrook.edu/~cse220  
PIAZZA: https://piazza.com/stonybrook/spring2016/cse220/home

Course Objectives and Description
This course will introduce assembly language programming and essential concepts of computer organization and architecture. The focus of this course is on the computer organization of a computer system, including the processor architecture and the memory system. In particular, we will discuss the internal representation of information, performance evaluation methodology, instruction set architectures and implementation techniques for computer arithmetic, control path design, and pipelining.

The official learning objectives for this course are:

- Provide students with an understanding of processor organization and the memory hierarchy.
- Develop students' understanding of the design principles of instruction set architecture by presenting the programming flexibility, hardware complexity, and implementation efficiency of computers and their relationship to high-level languages.
- Introduce the basics of assembly language programming, and implementation techniques for basic processor components, computer arithmetic, memory hierarchy, and pipelining.

Prerequisite
You must have taken CSE 114 or 160 and be a declared CSE major to take this course.

Class Time/Place & Final Exams
Lec 01: Tues & Thurs, 8:30-9:50am, Javits 102  
Lec 02: Mon & Weds, 2:30-3:50pm, Javits 102  
Common Midterm Exam: March 8, 2016 at 8:45-10:15PM

Lec 01 Final Exam: Tues May 10, 2016 11:15AM-1:45 PM  
Lec 02 Final Exam: Tues May 10, 2016 5:30PM-8:00 PM

Textbooks

Grading
The Pass/No Credit (P/NC) option is not available for this course.

The final grade will be determined based on the following:

- **Programming Assignments (20%)**
  A major component of the course is learning to program in MIPS. Therefore, to pass the course with a grade of a C or higher students must satisfy the following 2 criteria: (i) can miss only 1 assignment and (ii) must demonstrate ability to program in MIPS.

- **Quizzes (20%)**
  There will be quizzes frequently throughout the semester. No make-up quizzes will be given, except for PRIOR excused absences with documentation.

- **Midterm Examination (25%)**
  No make-up exams will be given, except for PRIOR excused absences with documentation.

- **Final Examination (30%)**
  The final examination will be cumulative of all material from the course.

- **Lecture & Recitation Attendance (5%)**
**Re-grading**
For re-grading of an assignment or exam, please meet with the person (instructor or teaching assistant) responsible for the grading. All such requests that are later than one week from the date the graded work is returned to the class will not be entertained. To promote consistency of grading, questions and concerns about grading should be addressed first to the TA and then, if that does not resolve the issue, to the instructor. You are welcome to contact the TA by email or come to his/her office hour. If you would like to speak with the TA in person, and have a schedule conflict with his/her office hour, you are welcome to make an appointment to meet the TA at another time.

**Programming Assignments** Extension to the assignments will NOT be given.
Programming assignments must be turned in on the day they are due. Students are urged to plan ahead to avoid problems such as congestion or failure of computer facilities at the last minute. If your assignment is incomplete or not working by the due date, turn in whatever you have. Note due to limited resources for grading, programs which do not compile or run for testing may not be graded. If some sort of emergency prevents you from submitting your assignment on time, supplying me with suitable documentation and notification prior to the assignment deadline will be considered.

**Quizzes**
There will be practice problems given regularly. They will consist of a set of questions related to the current course material which will be similar to the type of questions on the quizzes and exams. Quizzes will be given in lecture which contain questions on the material covered in lecture, textbook, and recitation. The quizzes are to be completed individually in the allotted time. No makeup quizzes will be given unless prior excused absence with documentation was granted.

**Academic Dishonesty**
You may *discuss* the practice problems with anyone you like, however each students' *assignment* *(including coding)* which they submit must be their own work, and only their own work. Any evidence that source code or solutions have been copied, shared, or transmitted *in any way* (this includes using source code downloaded from the Internet or written by others in previous semesters!) will be regarded as evidence of academic dishonesty. The College of Engineering and Applied Sciences regards academic dishonesty as a very serious matter, and provides for substantial penalties in such cases, such as receiving an 'F' grade, or expulsion from the University. For more information, obtain a copy of the CEAS guidelines on academic dishonesty from the CEAS office.

All examinations will be closed-notes and closed-book. No electronic devices of any kind will be permitted to be used during exams. All cell phones must be silenced or turned off during exams. Any use of electronic devices, textbooks, notes or any other materials will constitute cheating.

**Be advised that any evidence of academic dishonesty will be treated with utmost seriousness. Those involved will be prosecuted to the fullest extent permitted by the University and College laws.** Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website.

**Students with Disabilities**
If you have a physical, psychological, medical or learning disability that may impact on your ability to carry out assigned course work, I would urge that you contact the staff in the Disability Support Services office (DSS), ECC Building (behind SAC), 632-6748/TDD. DSS will review your concerns and determine, with you, what accommodations are necessary and appropriate. All information and documentation of disability is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to their and search Fire Safety and Evacuation and Disabilities.

**Critical Incident Management**
Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students’ ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.