San José State University  
Department Of Electrical Engineering  
Syllabus EE275, Section 1, Fall, 2018

Course and Contact Information

Instructor: Dr. Juan Gomez  
Office Location: Engineering 281  
Telephone: N/A  
Email: Juan.gomez@sjsu.edu  
Office Hours: Wed. 4:55-5:55pm  
Class Days/Time: MoWe 6:00PM - 7:15PM  
Classroom: Dudley Moorhead Hall 234  
Prerequisites: EE270 or EE271.

Faculty Web Page and MYSJSU Messaging

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on my class web page in Canvas(https://sjsu.instructure.com). You are responsible for regularly checking with the messaging system to learn any updates.

Course Description

Performance metrics, instruction set architectures, instruction pipelining and pipeline hazards, instruction-level parallelism, multithreading, cache and virtual memory, I/O performance and advanced topics in storage systems, topologies and hardware/software issues of interconnection networks.

Course Learning Outcomes (CLO) (Required)

Upon successful completion of this course, students will be able to:

• Know the classes of computers, and new trends and developments in computer architecture
• Understand pipelining, instruction set architectures, memory addressing.
• Understand the performance metrics of microprocessors, memory, networks, and disks
• Understand the various techniques to enhance a processor's ability to exploit Instruction-level parallelism (ILP), and its challenges.
• Understand exploiting ILP using dynamic scheduling, multiple issue, and speculation.
• Understand multithreading by using ILP and supporting thread-level parallelism (TLP).
• Understand the performance and efficiency in advanced multiple-issue processors.
• Understand symmetric shared-memory architectures and their performance.
• Understand multiprocessor cache coherence using the directory based and snooping class of protocols.
• Understand the various models to achieve memory consistency.
• Understand the several advanced optimizations to achieve cache performance.
• Understand virtual memory and virtual machines

Required Texts/Readings (Required)

Textbook

Other Readings

• Professional Embedded Arm Development by Langbridge, James A
• Computer Organization and Design: The Hardware and Software Interface by Patterson and Hennessy

Course Requirements and Assignments (Required)

“Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.”

Final Examination or Evaluation

Monday December 17, 2018 17:15-19:30 Regular classroom. Comprehensive with focus on material covered after the Midterm.

Grading Information (Required)

No make-ups exams except in case of verifiable emergency circumstances; once you are back in school, you need to take the exam within a week assuming that you provide documents to justify your absence and it is for a short time. No credit for any late assignments.

Determination of Grades

• Grades will be assigned as described below in a system where the maximum grade is 100 points. A+: [ 97, 100 ] A: [ 93, 97 ) A-: [ 90, 93 ) B+: [ 82, 90 ) B: [ 75, 82 ) B-: [ 65, 75 ) C+: [ 60, 65 ) C: [ 55, 60 ) C-:[ 50,55) D+:[ 42, 50 ) D: [ 35, 42 ) D-:[ 25, 35 ) F: [ 0, 25 ) Important: As an example, a student with a final grade of 96 / 100 will have a letter grade of A (not A+). I.e. no special handling of border situations will be performed and the grading scale above will be followed strictly.
• Extra credit options: not available, but drop lowest quiz/homework grade.
• Penalty for late or missed work: zero grade.
• Percentage weight assigned to various class assignments

1. Research Paper 5%
2. Quizzes and Homework (bi-weekly) 25%
3. Midterm 25%
4. Final Exam 30%
5. Two Projects 15%

Classroom Protocol

See class policies to be posted in the class website.
University Policies (Required)

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs’ Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/” Make sure to review these university policies and resources.

EE@SJSU (Department specific)
Honesty and Respect for Others and Public Property
EE HONOR CODE
The Electrical Engineering Department will enforce the following Honor Code that must be read and accepted by all students.
“I have read the Honor Code and agree with its provisions. My continued enrollment in this Course constitutes full acceptance of this code. I will NOT:
• Take an exam in place of someone else, or have someone take an exam in my place
• Give information or receive information from another person during an exam
• Use more reference material during an exam than is allowed by the instructor
• Obtain a copy of an exam prior to the time it is given
• Alter an exam after it has been graded and then return it to the instructor for re-grading
• Leave the exam room without returning the exam to the instructor.”

Measures Dealing with Occurrences of Cheating
- Department policy mandates that the student or students involved in cheating will receive an “F” on that evaluation instrument (paper, exam, project, homework, etc.) and will be reported to the Department and the University.
- A student’s second offense in any course will result in a Department recommendation of Suspension from the University.

EE HONOR CODE
In addition to EE Honor Code, students understand that professional attitude is necessary to maintain a comfortable academic environment. For examples:
- I do not just skip the lecture and then ask the instructor to summarize the lecture for me later on.
- Office hours are for students to have questions, not for the instructor to summarize the lecture for any specific student.
- I come to the class on time and leave the class at the end of the lecture.
- To minimize possible tension during the exams, I WILL follow the exam rules closely.
- I work on the lab assignments and final project by myself.
- I understand that long-term learning is my responsibility and so I always keep it up.
- I strongly believe that NOT any statement similarly to examples below can be used:
  - I am working full-time and so do not have enough time for the class.
  - I have quite many classes this semester and so I do not have enough time for the class.
  - I just need a passing grade to graduate this semester.
  - I live far away from the campus and so I cannot come to the class often. etc., etc....
### Course Schedule

This schedule is subject to change with fair notice via Canvas.

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