SAN JOSE STATE UNIVERSITY
Department of Aviation and Technology
Tech 160 – Microprocessor Theory and Applications

Fall 2016 Manizheh Zand
Lecture: Mon 3:00 pm – 4:45 pm   **Eng 103**
Lab: Wed 3:00 pm – 5:45 pm   **IS 117**
Office Hours: Mon 4:45 pm - 5:45 pm   **IS 102**
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Course Description

Microprocessor concepts and applications applied to testing and data management. Assembly language and high-level language programming and techniques, including assembling, compiling, and debugging. Current trends and issues in microprocessors. Prereq: Tech 63; CS 49 or CompE 46

Course Objectives

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

A) Understand the architecture and programming of Intel processor;
B) Write, assemble, link, and debug assembly language application programs on a PC;
C) Use assembly language to create both system-level software tools and application programs;
D) Perform interaction between assembly language programs, the operating system, and other application programs; and
E) Interface with high-level language

Textbook

Irvine, Kip R. (2011). Assembly Language for X86 Processors. (7th ed.). Upper Saddle River, NJ: Prentice-Hall.

Grading Criteria

The total points earned on all the midterms, quizzes, assignments, lab experiments, and final exam will be divided by the total possible points and the resulting percentage will determine the course grade

Midterms(2)	30%
Quizzes	10%
Homework Assignments	10%
Programming Assignments	30%
Final exam	20%

The final grade will be determined according to the following scale:

A+	97 -100%	B+	87 - 89%	C+	77 - 79%	D+	66 - 69%
A	93 - 96%	B	83 - 86%	C	73 - 76%	D	60 - 65%
A-	90 - 92%	B-	80 - 82%	C-	70 - 72%	F	0 - 59%

I. Midterms & Quizzes

There will be 2 midterms given during the semester **No makeup will be allowed.**

There will also be several quizzes given during the semester. **No makeup will be allowed.**

II. Homework Assignments

Do odd numbers of all Section Review questions in the chapters covered to reinforce the concepts covered during lectures. Assignments will be turned in on the day of each midterm and final exam.

III. Programming Assignments

You are expected to complete 4 assigned programming assignments from the programming exercises in the textbook beginning with Chapter 4. It is your responsibility to do a conscious work in a professional manner.

You are required to write, assemble, link, and debug the programs. Each program should include proper documentation. **Each student is required to turn in a source file and an output file showing the result for each program. The due date for each programming assignment will be 2 or 3 weeks from the assigned date. Each late assignment will be deducted 20% for whatever the excuses.**

IV. Final Exam
Wed May 24rd 12:15 pm - 2:30 pm

Academic Integrity:

Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and the university's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Conduct and Ethical Development. The policy on academic integrity can be found at http://sa.sjsu.edu/student_conduct.

Americans with Disabilities Act:

If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with DRC to establish a record of their disability.

Course Outline

Days	Date	Lecture	Topics
Week 1	M Jan 30th	Ch 1	Orientation/ Basic Concepts
	W Feb 1st	Ch 2	Processor Architecture
Week 2	M Feb 6th	Ch 3	Assembly Language Fundamentals
	W Feb 8th		
Week 3	M Feb 13th	Ch 4	Data Transfers, Addressing, and Arithmetic
	W Feb 15th		
Week 4	M Feb 20th	Ch 4	Data Transfers, Addressing, and Arithmetic
	W Feb 22nd		
Week 5	M Feb 27th	Ch 4	Data Transfers, Addressing, and Arithmetic
	W Mar 1st		
Week 6	M Mar 6th	Ch 5	Procedures Program #1 (4-6) Fibonacci Numbers
	W Mar 8th		Review Midterm#1
Week 7	M Mar 13th	Ch 1-4	Midterm #1
	W Mar 15th		
Week 8	M Mar 20th	Ch 5	Procedures
	W Mar 22nd		
Week 9	M Mar 27th	Holiday	spring break
	W Mar 29th		
Week 10	M Apr 3rd	Ch 6	Conditional Processing
	W Apr 5th		Due: Program #1 (4-6) Fibonacci Numbers Program #2 Color Matrix
Week 11	M Apr 10th	Ch 6	
	W Apr 12th		
Week 12	M Apr 17th	Ch 7	Integer Arithmetic
	W Apr 19th		
Week 13	M Apr 24th	Ch 14	Function calls
	W Apr 26th		Due: Program #2 Color Matrix Program #3 College Registration
Week 14	M May 1st	Ch 10	Structures and Macros
	W May 3rd		Due: Program #3 College Registration Program #4 Prime Number
Week 15	M May 8th	Ch 9	String and Arrays
	W May 10th		Due: Program #4 Prime Number
Week 16	M May 15th		Review
	Wed May 24th		Final Exam 12:15 pm 2:30 pm