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

Spring 2018   **Professor Manizheh Zand**
Lecture: **M   3:00 pm – 4:45 pm**   **IS 117**
Lab-section 11: W   3:00 pm – 5:45 pm   **IS 117**
Lab-Section 12: F   3:00 pm – 5:45 pm   **IS 117**
Office Hours: MWF 5:45 pm -6:15 pm   **IS 117**
email: manizheh.zand@sjsu.edu

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
Thursday May 17th 1215-1430
http://info.sjsu.edu/static/catalog/final-exam-schedule-spring.html

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.
For lab assignments please refer to canvas.

Course Outline

Days	Date	Lecture	Topics
1	Jan 24		**Orientation**
2	Jan 29	**Ch 1**	**Basic Concepts**
3	Jan 31-Feb 2		
4	Feb 5	**Ch 2**	**Processor Architecture**
5	Feb 7-Feb 9		**Quiz #1**
6	Feb 12	**Ch 3**	**Assembly Language Fundamentals**
7	Feb 14-Feb 16		
8	Feb 19	**Ch 3**	**Assembly Language Fundamentals**
9	Feb 21-Feb 23		**Quiz #2** **Review Midterm#1**
10	Feb 26		**Midterm #1**
11	Feb 28-Mar 2nd	**Ch 4**	**Data Transfers, Addressing, and Arithmetic** **Quiz #3**
12	Mar 5	**Ch 4**	**Data Transfers, Addressing, and Arithmetic**
13	Mar 7-Mar 9	**Ch 4**	**Data Transfers, Addressing, and Arithmetic** **Quiz #4**
14	Mar 12	**Ch 5**	**Chapter 5** **Procedures**
15	Mar 14-Mar 16		**Quiz #5**
16	Mar 19	**Ch 5**	**Chapter 5** **Procedures**
17	Mar 21-Mar 23rd		**Quiz #6**
	Mar 26-Mar 30	***No school***	***Spring Recess!***
18	April 2	**Ch 6**	**Chapter 6** **Conditional Processing**
19	April 4-April 6		**Quiz #7**
20	April 9		**Chapter 7** **Integer Arithmetic**
21	April 11-April 13		**Quiz #8**
22	April 16		**Midterm #2**
23	April 18-April 20		**Chapter 14**
24	April 23	**Ch 9**	**Chapter 9** **String and Arrays**
25	April 25-April 27		**Quiz #9**
26	April 30	**Ch 10**	**Chapter 10**

			Structures and Macros
27	May 2-May 4		Quiz #10
28	May 7	Ch 10	Chapter 10 Structures and Macros
29	May 9-May 11		Review for Final
30	May 14		Review for Final
Thurs day	May 17th		Final Exam 1215-1430 http://info.sjsu.edu/static/catalog/final-exam-schedule-spring.html