CSCI 212 - Machine Organization and Assembly Language

Instructor: Lemuel L. Davis

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Office Hours: Upon request

Time/Room: THUR 5:00 PM - 9:50 PM, Room MD-232

Prerequisites: CSCI 114 or equivalent

Course Description

This course provides an introduction to Assembly Language programming and the basics of machine organization. Assembly Language syntax is covered, together with a study of the x86 instruction set mnemonics and the x86 computer architecture. Techniques for performing arithmetic, memory addressing, stack operations and interfacing to operating system services will be covered. The material in this course will prepare you for future courses in more advanced computer architecture, operating systems, higher level programming languages and their compilers, and issues relating to performance and security.

Course Objectives

1. Describe the organization and architecture of a computer system.
2. Apply appropriate usage of the structure and syntax and Assembly Language programming.
3. Utilize the hexadecimal, binary and octal number systems.
4. Apply binary logic operations to Assembly Language programs.
5. Utilize memory management and memory addressing methods.
6. Use the DOS and BIOS services to interface with devices such as the keyboard, disk drives, monitor and printer output.
7. Given a problem definition/specification the student will design, code, debug and provide the instructor with an executable program that fulfills the specification.

Attendance Policy

Consistent participation and class attendance is critical to learning. Students who fail to participate will fall behind in acquiring course content and associated skills, negatively affecting the overall academic success for the course. Submission of lab and homework exercises are mandatory.

Do not assume your instructor will submit a drop card for you if you stop coming to class. Please carefully read the **Add/Drop Timetable for Semester-Length Classes** in the *Class Schedule*.

Important Dates

- August 23 - Last day to add without permission code
- August 30 - Last day to add with permission code
- August 30 - Last day to drop without notation
- September 18 - Last day to change to Audit/P/NP
- October 9 - Last day to drop with "W" grade

Late or Incomplete Work Policy

Submission of late assignments will generally not be accepted. In general, "making up" quizzes or exams will not be allowed. In the case of a verifiable emergency, an exception may be made provided the student has notified me prior to the due date of the assignment or exam.

Student Code of Conduct

Students are expected to respect and obey the standard code of student conduct while on campus. No foul language or conduct that disrupts learning will be tolerated. Respectful communication with the instructor and fellow students using language that is appropriate for an academic environment is expected. The Student Code of Conduct, Disciplinary Procedure, and Student Due Process (BP 5500, Spring 2002) are documented in the *College Catalog* and at the Office of the Director of Student Affairs. Charges of misconduct and disciplinary sanctions may be imposed upon students who violate these standards of conduct or provisions of college regulations.

Academic Integrity

Cheating, plagiarism, and other forms of academic dishonesty will not be tolerated.

- Plagiarism is the theft of someone else's ideas or work.
- Cheating in the following forms are not allowed:
    1. Collaboration in the completion of an assignment is not permitted unless explicitly stated by the instructor.
    2. Copying someone else's computer program or homework assignment.
    3. Copying a computer program or information from an outside source (don't Google it and then copy-paste).
    4. Completion of exams or quizzes with outside assistance of any kind.

Cheating is a serious breach of ethics and will be dealt with severely if an occurrence arises. Possible consequences include a failing grade in the course and/or expulsion from the college.

Disclosure of Disability

if you have specific disabilities and require special accommodations, please let me know right away. DRC (Disability Resource Center) will, upon student request, inform faculty/staff about functional and/or educational limitations and about recommended accommodations.

Required Text

ISBN-13: 978-0133769401
Assembly Language for x86 Processors (7th Edition)

Computing Resources and Software

- The Author's Web Site
- The CSIT Department's Homepage
- The Intel 64 and IA-32 Architecture Reference Manuals

Development Environment

Visual Studio Express 2013 with Update 4 for Windows Desktop
Other versions of Visual Studio at your own discretion

Assignments

Lab/Programming Assignments
Lab/Programming assignments will be given each week. Each assignment may be started during the lab period and must be completed by the beginning of the next class.

In-Class Assignments
In-class assignments will occasionally be given. The assignment will not be graded but will be scored on a submitted/not submitted basis. A good faith effort must be made to complete each lab assignment or only partial credit will be given.

Quizzes
A quiz will be given once each chapter is completed. Each quiz will consist of five to ten questions and must be completed once they are started. The quiz will normally be given at the beginning of class.

Grading Policy

Lab/Programming Assignments	30%
Midterm Exam	20%
Final Exam	25%
Quizzes	15%
In-class Assignments	10%

90%-100%:	A
80%-89%:	B
70%-79%	C
60%-69%	D
0%-59%	F