

Winter 2005

CEG 320/520-01: Computer Organization and Assembly Language Programming

Michael L. Raymer

Wright State University - Main Campus, michael.raymer@wright.edu

Follow this and additional works at: https://corescholar.libraries.wright.edu/cecs_syllabi



Part of the [Computer Engineering Commons](#), and the [Computer Sciences Commons](#)

Repository Citation

Raymer, M. L. (2005). CEG 320/520-01: Computer Organization and Assembly Language Programming. .
https://corescholar.libraries.wright.edu/cecs_syllabi/1144

This Syllabus is brought to you for free and open access by the College of Engineering & Computer Science at CORE Scholar. It has been accepted for inclusion in Computer Science & Engineering Syllabi by an authorized administrator of CORE Scholar. For more information, please contact corescholar@www.libraries.wright.edu, library-corescholar@wright.edu.

CEG 320/520: COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE PROGRAMMING

WINTER, 2005

OFFICIAL COURSE DESCRIPTION

[4 credit hours] Terminology and understanding of functional organizations and sequential operation of a digital computer. Program structure, and machine and assembly language topics including addressing, stacks, argument passing, arithmetic operations, traps and input/output. Macros, modularization, linkers and debuggers are used. Prerequisite: CEG 260, CS 242.

MEETING TIME AND PLACE

6:05 – 7:20 pm, Tues/Thurs
303 Oelman

TEXT BOOKS AND OTHER MATERIALS

- V. Carl Hammacher, Zvonko G. Vranesic and Safwat G. Zaky, **Computer Organization** (5th Ed.)
- Motorola 68000 family **Programmer's Reference Manual** (*Reference*)

INSTRUCTOR

Dr. Michael L. Raymer
338 Russ Engineering Center
775-5110

mraymer@cs.wright.edu
<http://www.cs.wright.edu/~mraymer>
<http://www.wright.edu/~michael.raymer/>

OFFICE HOURS

Tues/Wed/Thurs: 2:30 – 4:00 pm
Or by appointment (contact me via email or phone to make an appointment).

COURSE WEB PAGE

Keep an eye on this page for supplemental materials, copies of the lab assignments, notices, and important announcements. To get there, go to <http://www.wright.edu/~michael.raymer/ceg320>

COURSE CONTENT & TENTATIVE LECTURE SCHEDULE

Week	Topics	Reading
1	Number systems review, complement arithmetic	2.1
2	Intro to computer organization, assembly code, and RTL	1, 2.2, 2.3
3	Assembly language programming: addressing modes	2.4-2.6
4	The Motorola 68000 CPU: basic machine instructions, basic addressing	3.8 - 3.10
January 27	Midterm #1 - Tentative	
5	Advanced addressing modes, program control	3.11
6	Subroutines and the stack	2.8, 3.13
7	LINK and stack frames	2.9, 3.13
7	CPU details and control sequencing	7.1-7.2
February 24	Midterm #2 - Tentative	
8	I/O devices, polling vs. interrupt-driven I/O, DMA	3.12, 4.1-4.7
9	Memory and cache	5.5-5.6
10	Virtual memory	5.7-5.8
November 13	Last day of class	
Friday, March 18	Final Exam, 8:00 - 10:00 pm, 303 Oelman	

GRADING

The final grade will be determined according to your performance in the class as follows:

Item	Weight
Homework Assignments	5%
Lab Assignments	30%
Midterm Exams	30%
Final Exam	35%

The following grade cutoffs are *guaranteed minimums*. However, I reserve the right to curve the final grades based upon the final point distribution.

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

POLICIES & NOTES

PROGRAMMING ASSIGNMENTS (LABS) are due by midnight of the due date. Late programming assignments will be accepted, but 10% of the total available points will be deducted for each day late. Labs are considered one day late after 11:59pm on the due date. At midnight of each successive day (including weekends) the lab is considered an additional day late until turned in. Once a graded programming assignment has been returned, that assignment will no longer be accepted.

HOMEWORK ASSIGNMENTS are due at the beginning of class on the assigned due date. Late homework assignments will not be accepted.

COLLABORATION: Discussion of course contents with other students is an important part of the academic process and is encouraged. However, it is expected that course programming assignments, homeworks, and other course assignments will be completed *on an individual basis*.

Students may discuss general concepts with one another, but may not, under any circumstances, work together on the actual implementation of any course assignment. **If you work with other students on "general concepts" be certain to *acknowledge* the collaboration and its extent in the assignment. Unacknowledged collaboration will be considered dishonest.** "Code sharing" (including code from previous quarters) is strictly disallowed. "Copying" or significant collaboration on any graded assignments will be considered a violation of the university guidelines for academic honesty.

If the same work is turned in by two or more students, all parties involved will be held equally accountable for violation of academic integrity. *You are responsible for ensuring that other students do not have access to your work:* do not give another student access to your account, do not leave printouts in the recycling bin, pick up your printouts promptly, do not leave your workstation unattended, etc. If you suspect that your work has been compromised notify me immediately.

NOTE: Failure to attend the first day of class, during which time I will explain these academic honesty policies in detail, *does not excuse you from following these policies*. If you have any questions about collaboration or any other issues related to academic integrity, please see me immediately for clarification.

OTHER NOTES: If you cannot attend an exam, I need to know this in advance.

Email is the most reliable way to contact me. Don't forget to check the course web page for schedule updates, supplemental material, etc.