

# **CISC 225 – Computer Organization**

Northampton Community College  
Spring 2006, CISC 225 01, MW 6:00-7:50, Rich 17

## ***Instructor***

Norman Lippincott, Adjunct Professor  
NCC Adjunct Office: CC287

Office: Cedar Crest College, Curtis Hall, Room 105  
Phone: 610-606-4666 ext. 3697  
e-mail: [nlippinc@cedarcrest.edu](mailto:nlippinc@cedarcrest.edu)  
Web: <http://nlippincott.org/>

## **Northampton Office Hours**

Mon, Wed: 5:00-5:45

## **Cedar Crest Office Hours**

Tuesday: 11-12:30

Wednesday: 2-4

Thursday: 11-12:30, 5-7

Saturday: 8-9

## ***Course Description***

An introduction to computer organization and low-level programming. Covering the following topics: processor components and organization, addressing techniques, low-level data representation, instruction types and representation, information transfer, flow of control, machine and assembly level programming.

## **Prerequisites**

CISC 125 – Advanced Programming in C++

## ***Textbook***

Irvine, K.; *Assembly Language for Intel<sup>®</sup>-Based Computers*, 4th ed., Prentice Hall, 2003. ISBN: 0-13-091013-9.

## ***Course Objectives***

- Describe the relationship and organization of the basic components of a computer system.
- Describe the basic function of the components of a computer system.
- Understand the techniques used in machine and assembly language programming.
- Understand the various representations of data, and number systems used in computers.

## **Assessment**

The final grade for the course will be based on the following assessment items:

- Assignments (10): 30%
- Exams (3): 45%
- Final Exam: 25%

A final average is calculated according to the weights above and are rounded to the nearest full percent. The final grade is assigned according to the following scale:

- |             |             |             |
|-------------|-------------|-------------|
| ● 93-100: A | ● 80-82: B- | ● 67-69: D+ |
| ● 90-92: A- | ● 77-79: C+ | ● 60-66: D  |
| ● 87-89: B+ | ● 73-76: C  | ● 0-59: F   |
| ● 83-86: B  | ● 70-72: C- |             |

## **Assignments**

Assignments will consist of written problems and/or programming problems. Programs should be well documented using comments, and code should be indented to enhance readability. Comments should be included throughout the program to clearly describe all steps.

Completion of programming assignments will require the use of MASM, which is included with the textbook.

There will be 10 assignments given throughout the semester, and each will be due one to two weeks (depending on the complexity) after it is assigned. A tentative assignment schedule will be posted in a password-protected area of your instructor's web site.

## **Tests**

Tests will be written and will consist of problems and short answer questions. Usage of the computer will not be allowed during tests. On test dates, the second half of the class period will be allocated for the test.

## **Final Exam**

The format of the final exam will be the same as that of the tests, but longer. The final exam is comprehensive.

## **Policies**

### **Attendance**

Regular attendance is an important factor contributing to the student's success in the class. Although much of the material covered in class comes from the textbook, some course content comes from the instructor's notes or other resources, and may be delivered only in lecture form. The student is responsible for all material covered in class, and should arrange to get notes from another student in the event of absence from class. The instructor's notes are not available for perusal by the students.

Your instructor keeps an attendance record for the class, however this record does not directly affect the student's grade. If a student has excessive absence and is not showing responsibility for the course material, appropriate notice will be given to the Registrar as required by the College.

If the student is absent on the day of a test, arrangements for a makeup must be made in advance of the test. Failure to do so will result in a grade of zero for the test.

### **Due Dates and Late Work**

Your instructor will announce the date and time that each assignment is due. This information will also appear on your instructor's web site.

By turning in assignments on time your work will be graded and returned in a timely manner (usually within one week), and with comments as appropriate.

Late work will be accepted up to two weeks past the due date and will be subject to any or all of the following:

- A penalty of 20% of the total possible score will be assessed (unless otherwise noted under assessment details).
- The assignment may be graded without comment.
- The assignment will be graded and returned at the instructor's convenience, possibly as late as the end of the semester.

Any work that is not turned in within two weeks of the due date will receive a grade of zero.

### **Academic Integrity**

The student is expected to maintain academic integrity with respect to the work involved in this course. Unless specifically designated by the instructor, assignments for this course are individual assignments, not group projects. It is reasonable and appropriate for students to discuss an assignment outside of class, but the actual assignment work is to be one's own. It is not appropriate to collaborate on assignments, nor is it appropriate to copy another student's assignment, alter its appearance, and present it as one's own individual work. Such behavior is plagiarism and will result in a grade of zero for the assignment. A second offense will result in a grade of F for the course.

### **Class Cancellations**

College-wide class cancellations are announced on the regular media outlets. In the rare event your instructor must cancel an individual class, every effort will be made to notify students via e-mail of the class cancellation. Your instructor collects contact information at the start of the semester for this purpose. Please be advised that

advance notice of an individual class cancellation is not always possible.

When a class is canceled, whether college-wide or individual, the following contingencies are in effect:

- If class is canceled on a day that a test is scheduled, the test will be given at the next class meeting.
- If the class meeting immediately preceding a scheduled test date is canceled, the test will be postponed by one class meeting.
- If an assignment is due at the beginning of a class meeting, and that class is canceled, check your instructor's web site for information on when the assignment is due.

### **Release of Confidential Information**

In order to remain in compliance with the Family Educational Rights and Privacy Act (FERPA), the following policies will be in effect with regard to the release of information related to the student's academic record (i.e. grades):

- Your instructor may personally discuss such information with you, and may do so via telephone.
- Your instructor will not leave such information on an answering machine or voice mail system.
- Your instructor will not release such information to any third parties (such as a parent or spouse) without the student's written consent.
- Your instructor will reply to requests for such information via e-mail only to e-mail addresses within the northampton.edu domain. Replies to addresses hosted at other domains will be denied.
- Your instructor will post final grades to the grading area of the College Web site as soon as final grades are calculated. This is the earliest method by which this information becomes available.
- You may provide your instructor with a self-addressed stamped envelope for return of materials at the end of the semester. However, the student must personally deliver the envelope to the instructor. Envelopes delivered via other means will not be used.

### **Extra Credit**

Your instructor may, at his option, offer the class an extra credit assignment, based on the overall need of the class. How such an assignment affects the grade will be determined if and when the extra credit assignment is offered. Individual requests for extra credit will not be granted.

### **Class Visitors**

Anyone not registered for the course who wishes to sit in as a visitor must obtain permission from the instructor in advance. Class visitors are to adhere to the same classroom protocol as is expected from registered members of the class. For classes held in a computer classroom, visitors will not be permitted to use the computers in the classroom.

### **Computer Classrooms**

The computers in the classroom are to be used for organized class-related activities only. Using the computers for Web browsing, instant messaging, gaming, or other non-class-related activities is prohibited.

Specifically, students are to follow these guidelines during class:

- Students should not have any instant messaging programs open during class. Being signed on to an instant messaging program with an away message active is considered a violation of this policy.

- Students should not have any e-mail program open during class.
- Students should not have any web browser open, except for activities specifically authorized by the instructor.

## **Course Schedule**

The following is a tentative schedule for the course, and may be adjusted as necessary throughout the semester.

<b>Dates</b>	<b>Topic</b>	<b>Reading (Textbook)</b>
1/18, 1/23, 1/25	Basic Concepts	Chapter 1
1/30, 2/1	IA-32 Processor Architecture	Chapter 2
2/6, 2/8, 2/13	Assembly Language Fundamentals	Chapter 3
2/15	Exam 1	
2/20, 2/22, 2/27, 3/1	Data Transfers, Addressing, and Arithmetic	Chapter 4
3/6, 3/8, 3/20	Procedures	Chapter 5
3/22	Exam 2	
3/27, 3/29	Conditional Processing	Chapter 6
4/3, 4/5	Integer Arithmetic	Chapter 7
4/10, 4/12	Advanced Procedures	Chapter 8
4/17	Exam 3	
4/19, 4/24	Strings and Arrays	Chapter 9
4/26, 5/1	Structures and Macros	Chapter 10
5/3, 5/8	Review / Other Topics	
TBA	Final Exam	