

**Department of Mathematics and Computer Science
Adelphi University
Spring 2016**

0145-174-001	Computer Organization and Assembly Language Dr. R. M. Siegfried Science 407 (516)877-4482 siegfrie@adelphi.edu
Class Web Site	http://home.adelphi.edu/~siegfried/cs174
Office Hours	MWF 10:00-10:50AM; Tu 10AM-12Noon; F 10AM – 12Noon
Course Description and Purpose	Learn how the programming concepts of CSC 171 and 172, especially data types and basic control constructs, are represented and implemented at a machine-language level. Write working code in a symbolic assembly language
Gen Ed Learning Goals and Distribution Requirements	Quantitative Reasoning Formal Sciences
Course Learning Goals	Students will understand the organization of the Intel processors, be able to work in binary and hexadecimal number bases, and be able to write basic programs in Intel Assembly Language.
Corequisite	CSC 172
Texts	Assembly Language for x86 Processors, 7th edition, by Kip R. Irvine, Prentice Hall, 2015.
Topics	Basic Concepts Processor Architecture Assembly Language Fundamentals Data Transfers, Addressing and Arithmetic Procedures Conditional Processing Integer Arithmetic Strings and Arrays Floating Point Arithmetic (time permitting)
Assignments	The assignments this semester will require students to use a text editor (such as Notepad) to create Intel Assembly language program and to run them on Windows-based computers using Microsoft Macroassembler version 6.15 or later. This requires the installation of Microsoft

Macroassembler on their personal computers or on their flash drives.

While there will be opportunities to use class time for assigned work, this will be mainly limited to debugging and other assistance that students require in class. One should expect to spend 4-6 hours outside class working on programming assignments for this class.

Grading

Each programming assignment will be graded with a base grade of 90%, with points added to reflected areas in which the assignment exceeded specified requirements and/or points deducted to show areas where the assignment is deficient.

Late penalties may be assessed of 2 points per class after the due date.

The final average will be weighted (based on the following ratio:

Programming Assignments	25%
Quizzes	25%
Midterm Exam	25%
Final Exam	25%

The final average will translate to a letter grade according to the following table:

Final Average	Course Grade
A	90 – 100
A-	87.5 – 89.9
B+	83.3 – 87.4
B	80.0 – 83.2
B-	77.5 – 79.9
C+	73.3 – 77.4
C	70.0 – 73.2
C-	67.5 – 69.9
D+	63.3 – 67.4
D	60.0 – 63.2
F	0.0 – 59.9

Attendance

The following is the Adelphi University General Attendance Policy:

Only students who are registered for courses, and whose name appears on the Official Class Roster may attend courses at the

University. Adelphi students make a commitment to be active participants in their educational program; class attendance is an integral part of this commitment. Attendance requirements for each course will be announced by the faculty member at the beginning of each term. Students are expected to be present promptly at the beginning of each class period, unless prevented by illness or by other compelling cause. In the event of such absence, students may request that faculty members be notified by the Office of Academic Services and Retention. Students are responsible for completing course work missed through absences. Students should wait a reasonable length of time for an instructor in the event that the instructor is delayed.

Additionally, you are also responsible for whatever work is covered in class whether or not you are there. Absence from the final exam will be excused only for a good and well-documented reason. The decision to allow a make-up exam will be made in accordance with the policies of Adelphi University.

NB: I will not be available on Friday, April 29.

If the University is closed for more than two days due to an emergency, go the home page for this course site each day for instructions and assignments. Student instructions materials can be found at <http://home.adelphi.edu/~siegfried/cs174>

Tentative Schedule (Subject to Change)

Date	Topic	Assignment due
January 27	Basic Concepts	
February 1	Basic Concepts; x86 Processor Architecture	
February 3	x86 Processor Architecture	Assn 1 - p.19-21/3, 11, 13, 17, 21; p. 26/6, 7
February 8	Assembly Language Fundamentals	Assn 2 - p.47/4, 5
February 10	Assembly Language Fundamentals	
February 15	Assembly Language Fundamentals	Assn 3 - A program that adds and subtracts 32-bit numbers
February 17	Assembly Language Fundamentals	Assn 4 - Adding 4 32-Bit Integer Variables
February 22	Quiz #1	
February 24	Data Transfers, Addressing and Arithmetic	Assn 5 – Calculating an Expression
February 29	Data Transfers, Addressing and	Assn 6 – Calculating a

	Arithmetic	discriminant
March 2	Data Transfers, Addressing and Arithmetic	Assn 7 – Calculating the average of four numbers
March 7	Review for Midterm Exam	
March 9	Midterm Exam	Assn 8 - Working With arrays and indirect operands
March 21	Procedures	
March 23	Procedures	Assn 9 - Writing the time
March 28	Procedures	
March 30	Procedures	Assn 10 – Writing a procedure to write the time
April 4	Conditional Processing	Assignment #11 - Calculating the average of an array of n numbers
April 6	Conditional Processing	
April 11	Conditional Processing	Assn 12 – Using procedures
April 13	Integer Arithmetic	
April 18	Integer Arithmetic	Assn 13 - Finding the sum of the absolute values
April 20	Quiz #2	
April 25	Strings and Arrays	Assn 14 - A time-appropriate greeting
April 27	Strings and Arrays	
May 2	Floating Point Arithmetic	Assn 15 - Formatting the time
May 4	Floating Point Arithmetic	
May 9	Review for the Final Exam	Assn 16 – Find the first 10 prime numbers
May 16	Final Exam (3:30-5:30 PM)	

Students With Disabilities

If you have a disability that may impact your ability to carry out assigned course work, and are not enrolled in the Learning Disabilities Program, it is important that you contact the staff in the Disability Support Services Office (DSS), University Center, Room 310, (516) 877-3145. DSS@adelphi.edu. DSS will review your concerns and determine, with you, appropriate and necessary accommodations. All information and documentation of disability is confidential.

Honor Code

Students enrolled in this course are expected to abide by the Adelphi University Honor Code. The purpose of the Honor Code is to protect the academic integrity of the University by encouraging consistent ethical behavior in assigned coursework by students. Following is excerpted from the Student Honor Code:

The code of academic honesty prohibits behavior, which can broadly be described as lying, cheating, or stealing. Violations of the code of academic honesty will include, but are not limited to, the following:

1. Fabricating data or citations
2. Collaborating in areas prohibited by the professor
3. Unauthorized multiple submission of work
4. Sabotage of others' work, including library vandalism or manipulation
5. Plagiarism: presenting any work as one's own that is not one's own
6. The creation of unfair advantage
7. The facilitation of dishonesty
8. Tampering with or falsifying records
9. Cheating on examinations through the use of written materials or giving or receiving help in any form during the exam, including talking, signals, electronic devices, etc.

**Student Course
Evaluations**

During the last two weeks of the class, you will receive notification, via mail and eCampus, that the course evaluation is available for your input electronically. Availability will end at the start of the final examination period. Your feedback is valuable and I encourage you to respond. Please be assured that your responses are anonymous and the results will not be available to the instructor until after the end of the semester and therefore after course grades have been submitted.

Tear off this and return with information required below:

STUDENT ACKNOWLEDGEMENT:

I HAVE RECEIVED AND READ THE SYLLABUS FOR
[INSERT COURSE NUMBER AND SECTION].

SIGNED: _____

PRINT NAME:

DATE: _____

Warning – This page must be signed and returned to the instructor to receive a complete grade in this course.