

CSCI-UA.0201-001/3

Computer Systems Organization Fall 2016

Meeting time and place:

- Section 1: Tu/Th 11:00am-12:15pm WWH 109
- Section 3: Tu/Th 3:30-4:45pm WWH 102

Instructor: Mohamed Zahran (mzahran@cs.nyu.edu)

Office hours: Wed/Th 2:00-3:00pm or by appointment (WWH 320)

Check the web page for updated information about the course, announcements, as well as the lecture notes. Each lecture note will be posted before the actual lecture day.

Goal:

After this course you should be able to understand what happens under the hood when you computer executes programs. You will be able to visualize the big picture that shows how software and hardware are interrelated.

Text:

We will use the following book:

- Bryant, Randal, and O'Hallaron, David. **Computer Systems: A Programmer's Perspective**, 3rd Edition

The following book is not required but recommended to learn C programming:

- Kernighan, Brian W., and Ritchie, Dennis M. **The C programming language**, Second Edition

Grading:

The grades will be assigned in the following basis:

- Lab assignments 35%
- Homework assignments 10%
- Midterm exam 20%
- Final exam 35%

Goal:

The main goal of this class is to teach you how computers work *under-the-hood* to execute programs and manipulate data. The course will start with the C programming

language, down to assembly and machine-level code, to basic operating system and architectural concepts.

Syllabus:

The following topics will be covered in this course:

- C programming language
- Assembly language
- Memory hierarchy
- Processes
- Virtual memory

And, time permitting:

- Threads
- I/O

Feedback: I would like as much feedback/criticisms as possible from you, as early as possible, so that I can try to improve the way the course is taught. Please feel free to give me any suggestions (anonymously if you wish) that you think could improve the way the course is handled. Keep in mind that you are not alone. If you have a question, undoubtedly others do too; and we will all benefit from your input. Do not be shy to ask about anything you do not understand in the course.

Good Luck and Have fun!