

**C. W. Post Campus of Long Island University
Computer Science / Management Engineering Department**

Dr. Stephanie White

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***Office Hours:*
Tuesday 2 – 4 PM and by appointment**

***Location:* PH 206 (my office)**

**CSC 261
Section 1**

Computer Architecture & Operating Systems

This course meets Tuesdays & Thursdays: 12:30 – 1:50 PM

Catalog Description:**CSC 261, Computer Architecture and Operating Systems**

This course integrates operating systems and computer architecture. Discussion centers on computer organization and management and operating systems architecture and functionality. Detailed topics include: principles of digital logic, memory management, machine and assembly language, input/output processing and control, communication internal to the computer, process scheduling, and file management.

Prerequisites: CSC 116.

Text:

ABRAHAM SILBERSCHATZ, PETER GALVIN, GREG GAGNE, OPERATING SYSTEM CONCEPTS 7TH ED., ISBN: 978-0-471-69466-3, Wiley, 2005, 944 pages

Text website: <http://he-cda.wiley.com/WileyCDA/>

Under Engineering and Computer Science, choose Computer Science, then Operating Systems, then your text

Recommended Readings in Computer Architecture:

Andrew S. Tanenbaum, Structured Computer Organization, 5th ed., Prentice Hall, ISBN 978-0-131-485211

M. Morris Mano, Computer Systems Architecture, 3rd ed., Prentice Hall, ISBN 0-13-175563-3

Objectives:

Upon completion of this course, the students will:

- Understand design principles for modern computers
- Understand the different ways that computers are designed to meet performance and cost requirements
- Understand fundamental concepts and algorithms based on those used in existing commercial operating systems including Sun Solaris 2, Linux, Microsoft MS-DOS, Windows, and Apple Macintosh
- Understand concepts and algorithms in a general setting, not tied to one particular operating system
- Understand the Computer Architecture and Operating System topics listed under “Outline”, below.
- Be able to write simple Assembly Language programs
- Have written a term paper on a specific topic in computer architecture or operating systems

Outline:**Topic****Anticipated
Contact Hours**

Structured Computer Organization, Levels, Processors, Memory	3.0
Digital Logic Level: Gates, Circuits, Memory	3.0
Assembly Language	3.0
Computing System & Operating System Structures	3.0
Process Management, Processes, Threads	3.0
CPU Scheduling	3.0
Process Synchronization & Deadlocks	3.0
Memory Management	3.0
File System Interface	3.0
I/O Systems	3.0
Mass Storage Structure	3.0
Protection & Security	1.5
Final Project Presentations	3.0
Review for Final Exam	1.5
Total	39.0 hrs

Course Requirements Grading

<u>Assignment / Exam</u>	<u>Weight</u>
<i>Class work, effort, & attitude</i>	<i>10%</i>
<i>Term paper</i>	<i>20%</i>
<i>HW assignments</i>	<i>25%</i>
<i>Quizzes</i>	<i>25%</i>
<i>FINAL EXAM (cumulative)</i>	<i>20%</i>

Note: There may be some pop-quizzes

General Instructions

- You are expected to attend all classes. In case of illness or unexpected occurrence, please notify me as soon as possible via e-mail or a message in the Computer Science office (# 299-2293).
 - **School policy: More than 3 class cuts can result in a failing grade.**
 - There will be 4 quizzes. If you take all 4 of them, I will drop the lowest quiz grade. There are no make-ups on quizzes and no mid-term exam. There is a cumulative final exam.

Other Instructions

- You should purchase a folder for the handouts and graded assignments for the class
- Bring your text (for lab) and handouts to class each week, and be on time for class.
- Show respect to everyone in the class.
- Bring some level of enthusiasm for the subject.

If you have any questions about the class, your grade or any subject matter, you can see me during my office hours, leave me a note in my mail box in PH 222, or e-mail me at my LIU email address: *Stephanie.White@liu.edu*, or *s.white@computer.org*.

Some useful Internet links for reference

WebCT for syllabus, student file downloads & notes

<http://webct.liu.edu>

CSC 261 Sec 1

Text book site: <http://he-cda.wiley.com/WileyCDA/>

General References

[About.com - Computer Technology](#)

[Encyclopedia Britannica](#)

[Webopedia](#)

[Wikipedia](#)

There are numerous computer organization, computer design, and operating system resources available on the web. The following are a few good choices.

Computer Architecture Resources

- [WWW Computer Architecture Home Page](#)
- [computer architecture glossary](#)
- [Mic1 Microprogramming Simulator](#)
- [SPIM Mips 32 simulator](#)
- [Supercomputing and Parallel Computing Research Groups](#)
- [University of Southampton High Performance Computing Centre](#)

Operating System Resources

- [Operating System Information](#)
- http://asia.dir.groups.yahoo.com/dir/Computers_Internet/Software/Operating_Systems
- <http://www.linuxjournal.com/>

WebCT URL: <http://webct.liu.edu> (click on CSC 261, sec 1 course)

Contains: syllabus, assignments and selected handouts