Studying computer architecture is necessary in understanding the software/hardware interface, selecting hardware, and optimizing software designs and implementation. This course introduces computer architecture via programming in Assembly Language, working with performance issues, and studying diverse hardware components.

**Instructor:** Susan J Lincke, Ph.D.  
**Email:** lincke@uwp.edu  
**Web Page:** www.cs.uwp.edu/Classes/Cs355

**Office Hours:** Wed, Thurs. 3-6  
or by appt.  
**Office Phone:** (262) 595-2129  
**Office Location:** MOLN 255

**Class Hours:** Tues/Thurs. 1-2:50 PM  
**Class Location:** MOLN 130

**Text:** *Computer Organization & Design*, David A Patterson, John L Hennessy, 4th Ed.

**Prerequisites:** CS 245 Assembly Language

**Homework Assignments:** There will be 2 group presentations on hardware topics and two papers.

**Grading:**
- In-class lab/homework: 10%  
- Programming assignments: 20%  
- Special interest presentations: 0%  
- Three exams @ 20% each: 60%

**Grading Scale:**  
A = 90%  
B = 80%  
C = 70%  
D = 60%  
F < 60%  

Plus grades are assigned for grades within 2% of the next higher grade.  
Minus grades are assigned for grades within 2% of the next lower grade.

**Course Outline:**
1. Introduction (Chapter 1 except 1.4)  
2. The Processor: Datapath & Control (Chapter 4-4.4)  
3. Pipelining (Chapters 4.5-4.11)  
4. Intro to Security  
5. I/O and Interfacing (Chapter 6.5-6.8)  
6. Cache (Chapters 5-5.3, 5.8)  
7. Disk Systems & File Systems (Chapter 6-6.5, 6.9)  
8. Energy Efficiency  
9. Multicore & Multiprocessors (Chapter 7-7.7)  
9. Performance Improvement (Chapter 1.4)

**Due Dates:** Exam dates and homework due dates are posted on my web page.
Course Regulations:

Academic Honesty: Any indication of copying project work or any behavior during exams that could be considered copying or cheating will result in an immediate zero on the assignment or exam for all parties involved. In addition, the student’s advisor/department will be notified. Cheating on assignments is defined to be copying from someone else or providing someone else copies of your answers. Do not show your assignments to anyone else! You may answer questions on labs or project homework asked by other students.

Exam Make-Ups: Prior notice must be given to me when an exam must be missed. No make-up exams will be granted unless satisfactory documentation is produced to show an extenuating circumstance.

Homework Assignment Submission Policy and Guidelines
Assignments are to be submitted in class on the date due. All assignments shall be submitted as hard copy, but program code must in addition be submitted electronically. Hard copies should be left on my table at the start of the class. Assignments submitted after the first 10 minutes of class will be counted a day late. This policy is meant to discourage people from skipping class to finish a project. Every assignment should be stapled together and have an id-box header as follows:

# your name
# CS 355 – Computer Architecture
# Assignment date and description
Assignments turned in late will automatically have one full grade deducted. No assignments will be accepted one week or later after the due date.

Accommodation for Religious Observances: UW-Parkside policy requires that reasonable accommodation for a student’s religious beliefs. Please notify your instructor within the first two weeks of classes about any scheduled class date that conflicts with a religious observance.

Students with a Disability: Anyone who has special needs that must be accommodated to fulfill the course requirements should contact the Disability Services Coordinator in the Office of Educational Support Services (WLLC D175, 595-2372), and keep me informed. The University has many resources available to assist students with their academic studies.