CS-3841: Operating Systems

- Dr. Walter W. Schilling, Jr.
- Instructor

About the instructor

- **Instructor:** Dr. Walter W. Schilling, Jr.
- **Office:** Walter Schroeder Library 335
- **Office Hours:**
  - **MTWR 10:00-10:45**
  - While I post office hours, I keep an open door policy. If I am in my office and the door is open, please feel free to stop in.
- **Telephone:** 414 277 7370
- **E-mail:** schilling@msoe.edu
  - Best method to contact me during non-class days
  - Please prefix subject with CS2851.
- **Course Web Pages**
  - https://myweb.msoe.edu/~schilling/msoe/cs3841/cs3841.shtml

About the Instructor (Continued)

- Ohio Northern University graduate in Electrical Engineering
  - Computer Science Minor
- Masters and PhD. from University of Toledo
  - Specialized in Computer Systems Design and Software Reliability
- Worked in Automotive Industry for approximately 6 years
  - Audio Software Engineer – Embedded Systems Design
    - US Patent 6,707,768
    - "Randomized Playback of Tracks in a Multimedia Player"

- Personal Website: http://www.walterschilling.org

Catalog Description

- This course introduces the design and implementation of modern operating systems. Topics covered include the history of operating systems, process synchronization and scheduling, deadlock detection and avoidance, memory management, file systems, protection and security, and input/output systems. Laboratory projects provide experience in using operating system facilities available on a Unix-like system. C++ is introduced as an objected-oriented systems programming language.

Outcomes

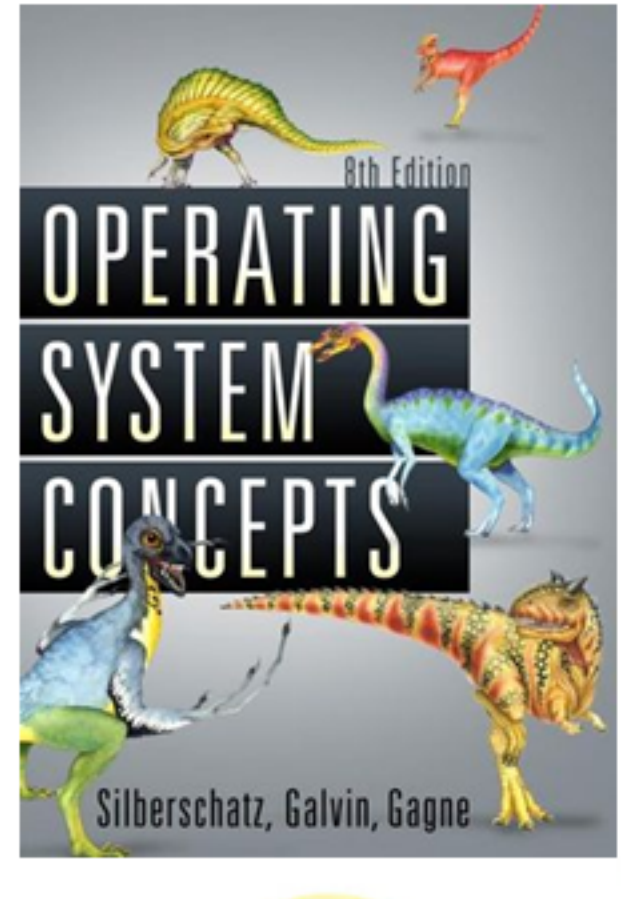
- Identify the components of operating system process management
- Recognize issues related to concurrent processes and synchronization techniques
- Discuss and illustrate several approaches to operating system memory management
- Discuss and illustrate several scheduling algorithms
- Describe input/output handling in operating systems
- Illustrate file system interfaces and implementation
- Apply UNIX system calls
- Perform independent research on a focused technical topic
- Document research results in a technical paper
- Communicate research results in a brief oral presentation

Prerequisites

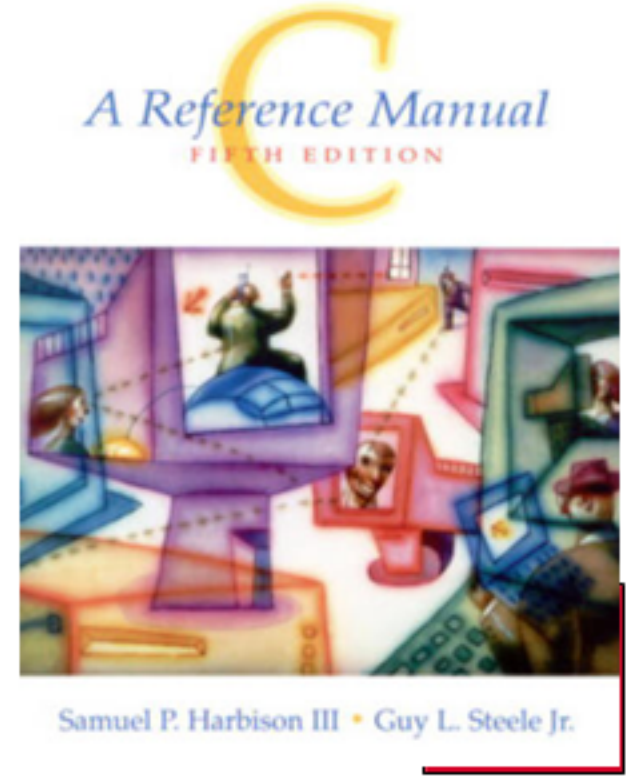
- CS2851 Data Structures
- CE2810 Embedded Systems II

Textbook

- *Operating Systems Concepts, 8th ed. Silberschatz/Galvin, J. Wiley, 2008*



- *CL A Reference Manual, Harbison/Steele, 2002.*



- Textbook will occasionally be supplemented with articles and other handouts.

Class Materials

- Textbook
- Laptop Computer with standard MSOE image
  - You are responsible for completing the assignments on time, even if your computer malfunctions. No extensions will be granted due to computer problems.

Grading

Midterm Exams (1)	25%
Lab Work	30%
Homework / Quizzes	10%
Final Exam	25%
Research Paper	10%
Total	100%

Later on in the quarter

General Notes

- **Assignment Due Dates**
  - Late Penalty
    - 10% per business day late penalty for all written work
    - No work will be accepted more than 5 business days late for credit.
  - Early Bonus
    - Early submission bonus will be available for all lab assignments.
    - 10% bonus for lab assignments submitted 48 hours or more in advance of the due date
    - 5% for lab assignments submitted 24 hours or more in advance of due date.

Grading Challenges

- Any grading challenges, unless specifically noted by the professor, shall be submitted in writing within 5 days of the assignment being returned to the student.
- Challenge must clearly delineate the problem with the assignment grade as well as justify the need for the grade change.

Student Integrity

- All students are expected to abide by MSOE's policy on student integrity. If at any point in the semester you have a question about an assignment, please come discuss it with me.
- Violations of this policy will be dealt with seriously, and may result in significant penalty, up to and including failure of the course.

Lecture Notes / Handouts

- Lecture notes and handouts may be made available in WebCT.
  - These are for your own personal usage and are not to be circulated outside of the MSOE domain.
- Lecture notes and handouts are subject to copyright law.

General Notes

- **Laptop Usage**
  - No laptop usage is allowed during lecture periods unless specifically requested by the instructor!
- **Class Participation and Activities**
  - Class attendance is mandatory.
  - Attendance is required at all lab sessions.
    - You must stay for the entire lab period unless the current assignment is complete and turned in.

Etiquette

- Cell Phones
  - Please turn off all cell phones and pagers during class.
    - Cell phones can be disruptive to the professor as well as fellow students.
  - No text messaging in class!

- If you must miss a class or lab for an acceptable reason, please let the professor know in advance and follow-up afterwards.

Course Coverage

- See Syllabus

Course Co

- See Syllabus

Test

Yes it Works.

Test

Hello

This is a test.