UNI CS 3430 (Spring 2019)
Operating Systems

Course Syllabus (Version 2.0)

Contact Information

Instructor

Sarah Diesburg (diesburg@cs.uni.edu)
Office: 311 ITTC
Office hours: MWF 9:00-10:00am, 1:00pm-2:00pm, and by appointment
Lecture: MWF 2:00-3:00pm in ITTC 328
Class website: UNI eLearning

Objectives

- Define, explain, and apply introductory operating systems concepts: process management, inter-process communication, memory management, I/O systems, file systems, and the like
- Use the UNIX operating system interface to implement a user-level shell in the C language
- Design and implement a correct concurrent program requiring synchronization
- Gain experience in implementing and debugging operating system components, including the kernel module, system call, synchronization primitives, and the file system

Prerequisites

- CS 1410 Computer Organization
- CS 1520 Data Structures
- CS 1800 Discrete Structures
- Junior standing or above
- Proficiency in C or other high-level programming language

Course Material

- Lecture notes (posted on the class Web site)
- UNI eLearning website for all other materials
- *Optional* textbooks:
  - Silberschatz, Galvin, and Gagne, *Operating System Concepts Essentials*, 2nd Edition (ISBN 978-1-118-80492-6)

Class Grading

The following coursework components contribute to your final grade, and to the degree shown:

Projects (also Lab 0)	47%
Homework over lecture material (8)	8%
Exam 1	12.5%
Exam 2	12.5%
Final Exam	20%
Extra Credit	??

The entire course is out of 500 total points.

There will be five hands-on projects due during this course. For many projects, you have the option of working in teams of two people or by yourself.

Homework over lecture materials will consist of short-answer questions, essays, or problems. The purpose of these exercises is to prepare you for exams. The exercises are primarily for practice and will be graded on a combination of effort and correctness. For example, a grade of 5 or 4 = high effort/mostly correct, 3 or 2 = medium to low effort, 1 or 0 = did not turn in or very little effort. However, when you see these problems on exams, they will be graded on correctness at that time.

For the projects, if you receive help from others, or if you find helpful information from various sources, please include appropriate acknowledgements. However, copying code from another classmate is never ok (see section below on scholastic conduct).

The final exam will be comprehensive.

The grading scale is as follows:

100 – 92	A	69.9 – 68	D+
91.9 – 90	A-	67.9 – 62	D
89.9 – 88	B+	61.9 – 60	D-
87.9 – 82	B	59.9 – 0	F
81.9 – 80	B-		
79.9 – 78	C+		
77.9 – 72	C		
71.9 – 70	C-		

Late Submission Policy

Late projects solutions will incur a 10% deduction each day the project is late. Project solutions received after two days from the original due date will receive 0 points. For example, a project solution submitted anytime on the Monday after the original due date of Friday will receive 0 points.

Computer Accounts

You will need CatID credentials to access the eLearning website.

Make sure you are checking your UNI emails. Important class announcements will be sent frequently from the eLearning interface to your UNI email account.

Your Responsibilities

- Understand the lecture slides and reading exercises
- Attend office hours for extra help, as needed
- Uphold academic honesty in completing your exercises, projects, and exams
- Turn in your projects on time
- Check the class webpage and your UNI email account regularly

Course Calendar (Tentative)

Dates	Topics/Notes
1/14 – 1/21	Introduction to OS Concepts and Systems Programming
1/23 – 1/30	Processes Basics, System Calls, Boot and Process Startup
2/1 – 2/18	Scheduling, Threads, and Basic Synchronization
2/20	Exam #1
2/22 – 3/13	Linux Kernels and Advanced Synchronization
3/13 – 4/1	Memory
4/3	Exam #2
4/5—5/3	Device Management, File Systems, OS Security
5/6	Final

Course Policies

Attendance: The University requires attendance in all classes. I may take role randomly throughout the course as part of your grade.

Missed exams: A missed exam will be recorded as a grade of zero. I will follow the university rules regarding all missed exams.

Scholastic Conduct: You are responsible for being familiar with UNI's Academic Ethics Policies (http://www.uni.edu/pres/policies/301.shtml). Remember, discussing assignments is good. Copying code or answers is not. Any copied code from a current or previous class member may result in a zero grade for the assignment up to an F for the course. All code will be checked with a plagiarism checker.

Accessibility: In compliance with the University of Northern Iowa policy and equal access laws, I am available to discuss appropriate academic accommodations that may be required for students with disabilities. Requests for academic accommodations are to be made during the first three weeks of the semester, except for unusual circumstances, so arrangements can be made. Students should register with Student Disability Services, 103 Student Health Center, to verify their eligibility for appropriate accommodations.