

INTRODUCTION TO OPERATING SYSTEMS

CS330 - 001 • WINTER SEMESTER 2020

INSTRUCTOR: ANDRÉ DOS SANTOS
dossantos@cs.uregina.ca • andreeds.github.io

LECTURES: Tuesday and Thursday • 8:30 - 9:45 pm • **CL 420**

OFFICE HOURS: Monday and Friday • 10:30 am - 12:00 pm • **LB 218** or **by email appointment**

TEXT: A. Silberschatz, G. Gagne, and P. B. Galvin, *Operating System Concepts*, 10th Edition, Wiley, 2018.

PREREQUISITES: CS 210

LABS: Section 096 • Friday • 2:30 - 4:20 pm • **CL 115**

Section 097 • Wednesday • 2:30 - 4:20 pm • **CL 115**

Section 098 • Friday • 10:30 am - 12:20pm • **CL 115**

Overview

Overview of operating systems: functionality, and design issues. Operating system principles: structures, abstractions, APIs, resource allocation, proximity, virtualization. Concurrency: process state, context switches, synchronization. Scheduling: preemption, schedulers, processes, and threads. Memory management. Security and protection. File systems. User interface. Distributed algorithms: consensus, termination, and fault tolerance.

Lecture Outline

- | | |
|---|---|
| I. Introduction to Operating Systems | IX. Virtual Memory |
| II. Operating System Structure | X. File System Interface |
| III. Processes | XI. File System Implementation |
| IV. Process Scheduling | XII. Programming Sockets |
| V. Shell Script Programming | XIII. Deadlock |
| VI. Main Memory | XIV. Introduction to Distributed Systems |
| VII. Inter-Process Communication | |
| VIII. Process Synchronization | |
-

Grading scheme

labs	15%
5 assignments	30%
3 quizzes	10%
1 midterm exam	15%
1 final exam	30%
Instructor Discretion	+5/-5%
Total	100%

Notes

1. Please read the sections of the 2019-2020 University of Regina General Calendar dealing with Academic Regulations.
 2. Due dates for assignments will be given with the assignments. All assignments should be submitted to UR courses. Late submissions are not accepted.
 3. All assignments should follow the directions and designs given by the instructor.
 4. The assignments will be weighted depending on the degree of difficulty.
 5. CHEATING WILL NOT BE TOLERATED. Any close resemblances in the submitted assignments or exams will be assumed to be the result of cheating. Copying of assignment is plagiarism. Allowing your segments to be copied will be treated the same as copying. THE CONSEQUENCE OF PLAGIARISM OR ANY OTHER FORM OF CHEATING WILL RANGE FROM A ZERO GRADE, TO FAILURE IN THE CLASS, TO EXPULSION FROM THE UNIVERSITY. Please note that the dean of the faculty will be informed of any such incident, as per university regulations. Refer to the section on Academic Misconduct and Penalties in the General University Calendar.
 6. The labs will be weighted equally.
 7. **You must attend at least 60% of the labs in order to pass the course.**
 8. Keep your marked assignments and midterm to verify the grader mark entry.
 9. All exams are "closed book," with no additional material permitted. Coats, hats, books, pencil cases, and all other personal items shall be left at the front of the room during examination periods. Cellphones, smartwatches, and all other electronic devices shall be put in your personal bag or left with the instructor during
-

the exam. Cellphones and all other electronic devices must be turned off. Any student violating these rules may be charged with academic misconduct.

10. The instructor reserves the right to organize student seating before and during examinations.