



Université d'Ottawa • University of Ottawa
Faculty of Engineering - Faculty of Engineering

CSI 3131 –Summer 2022
Elements of operating systems
(3 hours per week, 3 credits)

Course schedule

LEC 1	Tuesday 16:00 - 17:30	Online
LEC 2	Friday 16:00 - 17:30	Online
LAB 1	Tuesday 14:30 - 16:00	Online
TUT 1	Monday 08:30 - 10:00	Online

Course description

Principles and design of operating systems. Process management, process scheduling and concurrence. Processor scheduling. Mutual exclusion and synchronization. Deadlock and famine. Memory management and virtual memory. Management of files and I/O units. Prerequisite (s): CEG 2136 / CEG 2131, CSI 2110 / CSI2210.

Professor:

Dr. Fadi Malek
E-mail: malek@uottawa.ca
Office hours: by appointment

Objectives

Obtain a good understanding of the principles used by operating systems. Obtain practical experience with an operating system (Linux / Solaris).

Textbook

Operating Systems Concept, Silberchatz, Galvin, Gange, 9th edition or more, Wiley 2013.

References

William Stallings, Operating Systems: Internals and Design Principles, 4th edition, Prentice-Hall, 2001, ISBN: 0-13-031999-6.

Course website

- Go to <http://uottawa.brightspace.com>.
- Provide your username and password to connect to the virtual campus;
- Click on CSI 3131

EVALUATION

Assignments (individual)	25%
Midterm exam	25%
Final exam	50%

Note: To pass the course, you must have 50% on the average of the exams

Course Plan

- Review of computer architectures.
- General structure of operating systems.
- Description and control of processes.
- Threads.
- Scheduling on a uniprocessor.
- Concurrency: mutual exclusion and synchronization.
- Concurrency: deadlock and famine.
- Memory management.
- Virtual memory.
- File management

Plagiarism

Plagiarism (copying and submitting for credit someone else's work) is a serious academic offense that will not be tolerated. Note that students providing copy solutions also commit an offense because they are active participants in plagiarism. The person copying and the person providing the material for the copying will be reprimanded in a similar manner, according to regulations established by the University of Ottawa. For more information, please see the Academic Fraud section in the Undergraduate Studies Directory and the Plagiarism at the University of Ottawa webpage: http://www.uottawa.ca/academic/info/regist/crs/home_5_ENG.htm.