COMP 3000 (FALL 2020)
OPERATING SYSTEMS

GENERAL INFORMATION

Class time: 10:05 - 11:25, Mondays and Wednesdays (Sep.9 to Dec.11, 2020)
Instructor: Lianying Zhao (firstname.lastname@scs.carleton.ca)
Location: Online (TBD) Refer to the public class schedule
Office hours (online only):
  Instructor: Tue. 15:00 – 16:00 (or by appointment)
  Josh Babu George (joshbabugeorge at cmail.carleton.ca): Tue. 10:00 - 11:00
  Ming Lei (minglei at cmail.carleton.ca): Mon. 14:00 – 15:00
  Nilofar Mansourzadeh (nilofarmansourzadeh at cmail.carleton.ca): Thu. 13:00 - 14:00
  Srivathsan Morkonda Gnanasekaran (srivathsanmorkonda at cmail.carleton.ca): Thu. 15:00 – 16:00
  Willem Gooderham (willemgooderham at cmail.carleton.ca): Wed. 10:00 – 11:00
  William Findlay (williamfindlay at cmail.carleton.ca): Fri. 13:00 – 14:00
  Yusef Karim (yusefkarim at cmail.carleton.ca): Mon. 10:30 – 11:30
Tutorials (online):
  A1: 11:35 am - 12:55 pm, Thursdays
  A3: 11:35 am - 12:55 pm, Fridays

Course Website: Please use cuLearn as the primary source of information, where important instructions can be found that must be followed.

Preclusions: SYSC 3001, SYSC 4001
Prerequisites: COMP 2401, and one of COMP 2402, SYSC 2100.

Important dates and deadlines can be found here, including class suspension for fall and winter break.

COURSE DESCRIPTION
Operating system implementation course stressing fundamental issues in design and how they relate to modern computer architectures. Assignments involve the modification and extension of a multitasking operating system.
LEARNING OUTCOME

By the end of this course, students should:

- Have a strong conceptual model of how an operating system works that can facilitate software development/debugging and answer questions pertaining to an operating system’s everyday use.
- Be able to write/modify C code that uses low-level Linux services and implement simple Linux kernel extensions (modules).
- Understand the basic use and architecture of virtual-machine based and container based cloud architectures.

Note that in order to achieve these objectives students should have come into this course with a strong background in C programming and general application development.

GRADING SCHEME

4%: Lecture participation
18%: Tutorial participation
18%: Assignments
25% Midterm exam (in class)
35%: Final Exam (during the final exam period)

TEXTBOOK

The course will be using the textbook Operating Systems: Three Easy Pieces. The chapters of this textbook are available for free online; you can also buy a full epub, PDF, or paper copy if you wish.

This course focuses much more on reading code rather than writing code. Thus, John Aycock’s book, Reading and Modifying Code, is worth reading to better understand how reading code differs from writing code.

COLLABORATION

Collaboration on all work is allowed except for the midterm and the final exams. Collaboration, however, should be clearly acknowledged.
For assignments, while you may get help from others and even collaboratively solve technical problems, the **code and answers submitted** should all be your own work. For example, you may not divide an assignment into parts, give a part to another student or anyone else to solve, and then submit that work as your own. You have to have participated in the creation of every part of your submitted work. An easy way to make sure this happens is never share files regarding coursework or copy and paste answers into email. Instead, meet together to work on an assignment and then separate to write up your own solutions.

Similarity between submitted assignments that has not been appropriately documented will be treated as plagiarism - the same as copying on a midterm or a final - and will be submitted to the Dean for disciplinary action.

**UNIVERSITY POLICIES AND RESOURCES**

**Undergraduate Academic Advisor.** The Undergraduate Advisor for the School of Computer Science is available in Room 5302C HP; by telephone at 520-2600, ext. 4364; or by email at undergraduate_advisor@scs.carleton.ca. The undergraduate advisor can assist with information about prerequisites and preclusions, course substitutions/equivalencies, understanding your academic audit and the remaining requirements for graduation. The undergraduate advisor will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services and Writing Tutorial Services.

**Pregnancy Obligation.** Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit Equity Services.

**Religious Obligation.** Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit Equity Services.

**Academic Accommodations for Students with Disabilities** If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the Paul Menton Centre website.

**Survivors of Sexual Violence.** As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and survivors are supported through academic accommodations as
per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

**Accommodation for Student Activities.** Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, see the policy.

**Student Academic Integrity Policy.** Every student should be familiar with the Carleton University student academic integrity policy. A student found in violation of academic integrity standards may be awarded penalties which range from a reprimand to receiving a grade of F in the course or even being expelled from the program or University. Examples of punishable offences include: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found here.

**Plagiarism.** As defined by Senate, "plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own". Such reported offences will be reviewed by the office of the Dean of Science.

**Unauthorized Co-operation or Collaboration.** Senate policy states that "to ensure fairness and equity in assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis". Please refer to the course outline statement or the instructor concerning this issue.