

**DOUGLAS COLLEGE
COMMERCE AND BUSINESS ADMINISTRATION
COURSE INFORMATION AND SCHEDULE
CSIS 2260 – Operating Systems**

Semester: Winter 2021

Section: 010, 011, 012

Instructor: Michael Ma

Lecture: Fri 10:30 - 12:20 Online

Lab 010: Fri 12:30 - 14:20 Online

Lab 011: Thu 14:30 - 16:20 Online

Lab 012: Thu 16:30 - 18:20 Online

Email: max9@douglascollege.ca

Office Hours: Fri 14:30 - 15:30

Office: Online

COURSE MATERIALS REQUIRED

Textbook (Required): William Stallings, Operating Systems: Internals and Design Principles, 9th Ed, Pearson.

Reference (Not Required): Mchoes, A. and Flynn, I. Understanding Operating Systems, 8th Ed, Cengage Learning

Hardware and Software supplies (Required): A Windows 10 64-bit Desktop/Laptop with Quad-core CPU, at least 8 GB RAM and 100 GB free disk space, good and stable Internet connection, one MINIMUM 8 GB USB Flash Drive in good condition, Camera and microphone.

Note: Mac computers of any model will NOT be supported for this course.

CALENDAR COURSE DESCRIPTION

This course introduces the major components of operating systems, such as memory management, processor management, process management and file management. Emphasis will be placed on system performance under different design alternatives. Some popular operating systems, such as Windows, Unix/Linux, and Android may be used to illustrate their implementations. Students are required to work on at least two operating systems. This course is suitable for students who wish to learn more about the operating system process under different system environments, such as mobile, desktop and server environments. This course may involve group work.

COURSE CONTENT

- Introduction to computer hardware
- Computer systems overview
- Fundamentals of microprocessor architecture and instruction cycle
- Memory management and virtual memory
- Processor management
- Process and thread management
- Input/Output management and RAID
- Accessing files and directories
- System commands and scripting
- System help facilities and services
- Problem solving for operating systems

COURSE OBJECTIVES

The student will be able to:

- Identify different hardware components within a computer system
- Identify the system components that are managed by the operating system
- Describe the major components and functions of operating systems
- Explain memory management and its performance implications

- Demonstrate the differences between process and thread
- Analyze the applications of different RAID levels
- Demonstrate the performance implications of different file management mechanisms
- Manage popular operating systems such as Linux/Unix and Windows systems
- Use systems' help facilities
- Perform operating system commands and scripting to execute different computer tasks
- Manipulate files and directories within the operating system
- Identify system problems and provide possible solutions

METHODS OF INSTRUCTION

Lecture, seminar, demonstration, and hands-on exercises

EVALUATION

A final course grade will be determined based on the following instruments and their corresponding weighted percentages:

Assignments/labs	20%
Quizzes (2)	20%
Mid-Term Examination	30%
<u>Final Examination</u>	<u>30%</u>
Total	100%

If the student completed less than 70% of the total evaluations available for this course, or missed more than 30% of the classes where the Instructor's Course Outline specifies that attendance is a course requirement, he/she will be assigned an UN as the final grade. Students will receive a UN as the final course grade for missing the FINAL examination.

In order to pass the course, the student must, in addition to receiving an overall course grade of 50%, also achieve a grade of at least 50% on the combined weighted examination components (including quizzes, tests, and exams).

Students are required to produce ID card during examinations.

COVID-19 SAFETY GUIDANCE

Keeping our campuses healthy

This Winter semester, Douglas will welcome a small number of faculty and students on our campuses for in-person instruction. Other students may also attend campus to seek advice or assistance from a number of our service areas. To help ensure the safety of our campus community, please adhere to the following guidelines.

If you come to campus:

- Complete a daily self-assessment before coming to campus: <https://bc.thrive.health/>
- Follow all posted signage.
- Maintain physical distance of 2m (6 feet) from others. Do not congregate in groups.
- Wear a non-medical face mask in public areas or areas where physical distancing is not possible.

DO NOT come to campus if:

- You are sick.
- You have been in contact with someone with a confirmed case of COVID-19 within the last 14 days.
- You have travelled or been in contact with someone who has travelled outside of Canada in the past 14 days.

If you are unable to attend a class due to illness, contact your instructor immediately.

Illness on campus

If you become ill while on campus, contact Campus Security immediately for first aid and to report your symptoms.

If you are concerned that you may have COVID-19, use the [BC government COVID-19 self-assessment tool](#) to help guide you on what to do. The province of BC has also set up a dedicated COVID-19 hotline at 1-888-COVID19 or text 604-630-0300. The service is available daily from 7:30 a.m. to 8 p.m. with information available in over 110 languages.

GENERAL GUIDELINES

Preparation, Attendance, and Participation

Even though classes continue to occur online, either by Zoom or Collaborate, the notion of "classroom" does not disappear. As such, we would remind our students to behave appropriately while in the virtual classroom, following the college's respectful workplace policy.

Students are required to prepare for, attend and actively participate in all class sessions and exercises, to sit the required tests, quizzes and examination, to submit assignments and projects, and to deliver an oral presentation as and when required.

In order to avoid a UN mark, the students must attend at least 70% of all classes and at least 70% of the assessments. If missed, certain assessments such as labs, quizzes, assignments, presentations cannot be taken at a later stage.

If there is a medical reason, please submit to your instructor as soon as possible a medical note from a BC registered doctor that must have: clinic letterhead with contact info (address, telephone number), the number of days covered by the note, the doctor's full name (no initials) and the doctor's signature. Only the original note is accepted; no scans, photocopies or faxes are allowed. No nurse notes will be accepted.

Students who miss a class are responsible for material covered in the missed class. Office hours are intended to assist students who have attended classes and who wish additional help, not for the transmission of missed class content.

Hardware/Software requirements

The minimum requirements to attend Douglas College's online courses are published on the college's website.

Instructor could use any combination of the college's available services in order to deliver the course. The student is advised to make sure that all the hardware/software that he/she intends to use during the semester are following the college's published minimum requirements.

In order to maintain overall standards, unless agreed in advance by the instructor, the student may not use non approved hardware/software. Using non approved hardware/software may put the student in a difficult situation to complete the course assessments.

<https://www.douglascollege.ca/student-services/essential-resources/online-learning/Online-Learning-Requirements>

Please check **Hardware and Software supplies** on the first page for hardware/software requirements. Any errors related to the mis-installation or mis-operation of the software required for the course or labs will be entirely the responsibility of the student. The student must troubleshoot his/her own software installation or operation. Regardless of the operating system installed, the Instructor cannot and will not be held responsible for any misfunctions of the student's computer.

You should ensure that your own microphone/camera works, you can verify this with the Windows 10 Camera App. Record yourself and play back the video.

You should also ensure that your internet connection is reliable particularly during scheduled class

In certain courses due to the nature of the curriculum the minimum recommendation may be supplemented with additional display, performant CPUs and/or additional memory. Please check with your instructor.

In case of the course online assessments, regardless of if it is related to the feasibility to proceed with the assessment online or not, the instructor may at his/her discretion to replace the online assessment with a different method, for example with an online oral assessment an online camera session.

Use of Cell/Mobile phones during the Class (lectures, labs, seminars, presentations)

Unless the class is on break or explicitly allowed by the Instructor, cell/mobile devices are not allowed to be used during class. Cell/mobile devices will be muted and stowed away. Laptops and tablets may be used with the sole purpose of taking notes or reading the textbook. Audio or Video recording or taking of Photos of the class proceedings, participants or material is prohibited unless permission is obtained from the instructor in advance.

Student Conduct during the Class (lectures, labs, seminars, presentations in class and online)

Any student who displays disruptive or dangerous behavior will be asked by the instructor to leave the classroom. Reprimands will be exercised according to official college policy. College policies are available at <http://www.douglascollege.ca/about-douglas/governance/policies>.

Timeliness

Students are expected to be in class at the start of class. If a student must be late, contact the instructor with an explanation prior to the late class. It is the Instructor's discretion to allow the student to join late the class. If allowed by instructor, the late student should enter from and sit in the back of the classroom so as to not disrupt class activities. Arriving on time is a matter of respect for the instructor and fellow students. After due warning, students who are repeatedly late and disruptive for class may be prohibited from entering the classroom. College policies are available at <http://www.douglascollege.ca/about-douglas/governance/policies>.

Electronic Communication between Instructor and Students

The main method of electronic communication is Blackboard and Douglas College email system. It is the students' responsibility to ensure that they have access to Blackboard and Douglas College email system, and they check regularly for any new postings.

All academic related communication through emails must originate or destined from/to a valid @student.douglascollege.ca email address. Emails originated from a different email address will be disregarded as there is no method to recover complete history of communication from other email service providers. Please include the following information in the email for efficient communication: course and section number, name, and student number.

Academic Integrity

The College values academic integrity.

Plagiarism is presenting or submitting as one's own work, research, words, ideas, artistic imagery, arguments, calculations, illustrations or diagrams of another person or persons without explicit or accurate citation or credit; this includes submission of purchased material as well as material in which the student has permitted someone else (a fellow student, tutor, mentor or teaching assistant, friend, etc.) to contribute unacknowledged. Persons include past and current students. Unless explicitly awarded by the Instructor, in a written document or communication, the right to submit common/team work by two or more students, the submission/presentation is considered plagiarism. The use and/or reference of any/all websites (e.g., coursehero.com or

similar) which host copies of Douglas College course work assessments such as but not limited to quizzes, assignments, midterms, labs, exams, practical work, etc., constitutes plagiarism.

Self-plagiarism is submitting one's own work for credit in more than one course without the permission of the instructors, or re-submitting work, in whole or in part, for which credit has already been granted.

Cheating is the possession or provision of unauthorized aids, assistance, or materials in the preparation of assignments, during examinations or in the completion of practical work (in clinical, practicum or lab settings). See the Academic Integrity policy for other definitions of academic dishonesty. Academic dishonesty will be treated as a serious offence. Discipline can range from a zero grade on the exam or assignment in which the offence occurred to suspension or expulsion from the College.

Douglas College condemns cheating or attempted cheating within its community. Regarding the details of the policy on Academic Dishonesty, please visit

<https://www.douglascollege.ca/sites/default/files/docs/finance-dates-and-deadlines/Academic%20Integrity%20Policy%20w%20Flowchart.pdf>

Assignments

Every assessment will be given a due date, which will appear at the top of the first page. Assignments need to be typed, and in complete executable form as outlined in each assignment instructions. All assignments should be submitted using the Blackboard Community. Please note that department office staff will not accept assignments.

Unless otherwise communicated in the course outline or by the instructor, all assignments must be completed **individually**. All assignments will be checked for plagiarism using automated and manual techniques, and there will be no tolerance for plagiarism. Not using quotations and references is also considered plagiarism. Any plagiarism will result in a score of zero for all parties involved. **NO late assignments will be accepted.**

Extra Copies of Assignment

Students are advised to keep extra copies (i.e., photocopies or file backups) of their assignments in case of any possible misplacement or digital data loss.

Lab Assignment General

Students **MUST** prepare in advance for the lab by reading and printing their lab assignment before the lab session. They must have all the environment set up and in working conditions. Delays caused by not having the environment ready and running will not be entertained as well as not being prepared for the lab. Unless otherwise agreed with the instructor, students **MUST** submit their completed lab before the given deadline. There is no "make up", "re do" or any other way to complete a Lab session that was missed or incomplete.

Arriving Late to a Lab Sessions

It is important for students to come to the lab sessions on time. Students who are late without an instructor-approved reason for the second time will have 50% of the lab marks deducted and will be prohibited to enter the lab on their third late arrival.

Quizzes/Examinations

Unless otherwise stipulated in the course outline or by the instructor, quizzes/tests, midterms, labs, etc. will take place at the beginning of the class at scheduled date and time. There is no additional time awarded in case the student is late. The student will only have use of the time between his/her arrival and

the scheduled end. Failure to attend a quiz/examination will cause the student to receive a ZERO MARK and will count towards a UN mark requirement. See “Missed Tests or Examinations”

Missed Quizzes or Examinations

Quizzes and examinations will be offered only during the scheduled date and time of sitting. Exceptions may be considered in cases of extraordinary circumstances. It is the responsibility of the student to inform the College and the instructor at the earliest reasonable opportunity if he/she intends to miss a test or examination. Otherwise, the student will receive a **ZERO** Mark for any missed quizzes and exams and will receive a UN as the final course grade for missing the FINAL examination.

Class Cancellation

In the event that a class is cancelled due to instructor illness or other unforeseen circumstance, a notification will be made through Blackboard to every student enrolled in the course. It is the responsibility of students to be proactive and to check their announcements and/or e-mail before coming to class. Every effort will be made to ensure that the notification is made as soon as possible.

Bonus Marks: The instructor, at his discretion, could offer Bonus Marks (fractions, full points or percentages). These marks are over and above the original 100% marks allocated to the course. Bonus marks will not be awarded in the detriment of the 100% marks covered by the CG or CO. These Marks could be offered for either team or individual work. The Instructor will detail the conditions to achieve the bonus marks before the activity for which bonus marks would be awarded. The students have the right to not participate in any or all bonus marks activities. The students have to actively accept or reject participating in the Bonus Mark event or activity by communicating with the instructor in advance of the event or before a specified deadline that was marked to award Bonus Marks.

Material Used in Exam (Quizzes, Midterm, and Final)

Any material such as printed documents, scratch papers, notes, any other papers used during the examination, CDs, USB flash drives will be returned to the instructor at the end of the exam before leaving the exam room. In addition, for exams that make use of computers in fix or mobile labs, it is strictly forbidden to take photographs, make copies or to remove material from the exam room by emailing or posting it to websites. Removing any photographing, coping or removing material from the exam room without the instructor’s explicit permission will cause the exam to be scored at 0 (zero) marks and the behavior will be reported to the CBA management

It is the student’s responsibility to ensure that the submitted file is the correct file and it can be opened by the instructor. Any file submitted that is incorrect or cannot be opened by the instructor will receive a 0 (zero) mark.

Student Responsibility Regarding Announcements

Students are responsible for all the announcements made in the classroom and lab concerning course information and schedule changes **WHETHER OR NOT** they are in attendance.

CHANGES TO THE COURSE OUTLINE AND SCHEDULE

The following course information and schedule are subject to change (Consistent with College Policy and with notice to the students).

COURSE SCHEDULE

Week	Dates	Topics and Activities	Readings	Labs
1	Jan 8	Course Outline Introduction to Computer Hardware	Notes	No lab this week
2	Jan 15	Computer Systems Overview	1	#1
3	Jan 22	Computer Systems Overview	1	#2
4	Jan 29	Quiz 1 and class Operating Systems Overview	2	#3
5	Feb 5	Operating Systems Overview	2	#4
6	Feb 12	Processes	3	#5
7	Feb 19	Study break, no class		
8	Feb 26	Midterm exam and class Processes	3	No lab this week
9	Mar 5	Threads	4	#6
10	Mar 12	Memory Management	7	#7
11	Mar 19	Quiz 2 and class Memory Management Virtual Memory	7, 8	#8
12	Mar 26	Virtual Memory	8	#9
13	Apr 2	Good Friday, no class		
14	Apr 9	I/O Management and Disk Scheduling	11	#10
	Apr 14 -22	Final Exam Period		

The Final Examination period is April 14 -22. Please check the examination schedule as soon as it becomes available for potential scheduling conflicts. Do not make any travel arrangements within this exam period as the college will not change the exam date to accommodate your travel plans.

Letter grade chart: The letter grades and corresponding percentages listed below, effective as of Fall 1999, are used in the evaluation of coursework in credit courses. For previous percentages contact the Registrar's Office.

Grade	Numerical Value	Achievement Level	Description
A+	4.33	95% and above	
A	4.00	90% to 94%	Outstanding Achievement
A-	3.67	85% to 89%	
B+	3.33	80% to 84%	
B	3.00	75% to 79%	Good Achievement
B-	2.67	70% to 74%	
C+	2.33	65% to 69%	
C	2.00	60% to 64%	Satisfactory Achievement
C-	1.67	55% to 59%	
P	1.00	50% to 54%	Marginal Achievement
F	0.00	49% and below	Unsatisfactory Achievement
FD	0.00	Failure due to academic dishonesty	
UN	0.00	Student completed less than 70% of the total evaluation of the course, or missed more than 30% of the class where the instructor's Course Outline specifies that attendance is a course requirement	
W	N/A	Does not include in GPA calculation	

More information about the Douglas College grading policy can be found at:
<https://www.douglascollege.ca/sites/default/files/docs/finance-dates-and-deadlines/Grading%20Policy%20May%202019.pdf>