

CIS*4010: Cloud Computing: Fall 2020

Course Information

Instructor	Email	Discord
Dr. Deborah Stacey	dastacey@uoguelph.ca	DebStacey
Lecture Slot Monday, Wednesday 14:30 to 16:00		
Calendar Description This course introduces students to fundamentals of cloud computing and software development for cloud platforms. It covers topics such as virtualization, architecture of cloud systems, programming for the cloud, resource management, as well as privacy and security issues. Prerequisite(s): CIS*3110		
Topics 1. Introduction to the Cloud; Why Cloud? 2. Storage - Managing Data in the Cloud 3. Computing in the Cloud a) Virtual Machines b) Containers c) Load Balancing d) Kubernetes 4. Clouds - AWS, Azure, GCP 5. Cloud Management 6. Ethics in the Cloud 7. Security 8. AI in the Cloud 9. Serverless, Streaming, IoT 10. Future of Cloud		
Recommended Text <i>Cloud Computing for Science and Engineering</i> • Available online at https://cloud4scieng.org/		
Method of Evaluation • Individual Assignments [4 X 15% = 60%] • Quizzes [2 X 10% = 20%] and Final Exam [20%]		

Schedule of Weeks							
Week	Class 1			Class 2		Topics	
1	Mon	Sept	14	Wed	Sept	16	Intro to Cloud Computing Why Cloud?
2	Mon	Sept	21	Wed	Sept	23	Storage: Theory, AWS
3	Mon	Sept	28	Wed	Sept	30	Virtual Machines: Theory, AWS
4	Mon	Oct	5	Wed	Oct	7	Containers: Theory, Docker
5	Wed	Oct	14	Mon	Oct	19	Azure Week: Storage, VMs
6	Wed	Oct	21	Mon	Oct	26	GCP Week: Storage, VMs
7	Wed	Oct	28	Mon	Nov	2	Security: Theory, AWS
8	Wed	Nov	4	Mon	Nov	9	Serverless; Ethics in the Cloud
9	Wed	Nov	11	Mon	Nov	16	AI in the Cloud
10	Wed	Nov	18	Mon	Nov	23	Load Balancing; Kubernetes
11	Wed	Nov	25	Mon	Nov	30	Streaming; IoT
12	Wed	Dec	2	Fri	Dec	4	Costs; Future of Cloud

Task Schedule	
Week 1	Get free academic AWS account
Week 3	Get free academic Azure account
Week 3	Get free academic GCP account
Week 3	First Assignment due
Week 4	Quiz 1
Week 6	Second Assignment due
Week 9	Third Assignment due
Week 10	Quiz 2
Week 11	Fourth Assignment due
Week12	Take-home exam questions assigned

University and CEPS Policy Statements

Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

Presentation Recordings

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

On-Line Classes

- Do not redistribute recorded interactive discussions that involve your classmates. This includes advising times and question and answer sessions with the instructor.
- Online activities such as advising times, question and answer sessions, and interactive lectures may be recorded by the instructor or TAs and posted to Courselink. By taking this course you are agreeing that your participation in these activities can be used in this manner. If you do not wish to have your image or voice recorded as part of these activities then either do not take this course or do not ask verbal questions during these activities.
- A reliable internet connection that is sufficient for online learning is necessary for this course. If you do not have a sufficiently fast and reliable internet connection then you may not be able to view or download lectures or other course material. It may also not be possible to attend online advising with teaching assistants or the instructor.
- This course is offered in the eastern standard time zone (EST). While taking this course then you may be required to attend online activities such as advising times or labs between 9:00 and 4:30 EST.
- Keep copies of assignments which you have submitted. You may be asked to resubmit assignments at a later time.

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id number, and

e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student. When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway. Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability. Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not

later than the 40th Class Day. Information can be found on the SAS website <https://www.uoguelph.ca/sas>.

Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Recording of Materials

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Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>