Western University
Faculty of Engineering
Department of Electrical and Computer Engineering

SE 4455B: Cloud Computing

Course Outline 2023-2024

Description: Exploring the forefront of technology innovation, the Cloud Computing course offers an in-depth exploration of cloud services and technologies. Covering core models like IaaS, PaaS, and SaaS, it provides practical insights into major cloud platforms, including GCP, AWS, and Azure. The curriculum emphasizes containerization and orchestration through Docker and Kubernetes, delving into cloud architecture, microservices, DevOps, and serverless computing. Combining theoretical concepts with hands-on lab activities, students will develop skills in various cloud computing technologies, equipping them with the expertise needed for the ever-evolving cloud technology landscape.

Academic Calendar Copy:

The course offers an in-depth exploration of modern cloud computing technologies and practices. Students will engage with cloud service models including IaaS, PaaS, and SaaS, and gain practical experience with major platforms such GCP. The curriculum emphasizes hands-on learning in containerization and orchestration with Docker and Kubernetes, cloud architectures, microservices, DevOps, and serverless computing. Through theoretical instruction and laboratory activities, students will develop comprehensive skills in cloud computing, preparing them for the evolving technological landscape.

Contact Hours: 3-lecture hours/week, 2-laboratory hours/week, 0.5 course.

Prerequisites: (ECE 4436A/B, SE 3313A/B, SE 3314A/B), or (Computer Science 3357A/B, Computer Science 3305A/B).

Co-requisite: Computer Science 4457A/B, only for Computer Science students.

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

CEAB Academic Units: Engineering Science 75%, Engineering Design 25%.

Recommended References:

- Lecture Slides
- The Docker Book: Containerization is the new virtualization" by James Turnbull
- Kubernetes Up & Running: Dive into the Future of Infrastructure" by Kelsey Hightower, Brendan Burns, and Joe Beda
- Google Cloud Skills Boost (Course Catalog): https://www.cloudskillsboost.google/

General Learning Objectives (CEAB Graduate Attributes)

Knowledge Base	A	**Use of Engineering Tools**	A	**Impact on Society and the Environment**	A
Problem Analysis		**Individual and Team Work**		**Ethics and Equity**	
Investigation	A	**Communication Skills**		**Economics and Project Management**	
Design		**Professionalism**		**Life-Long Learning**	A

Notation*: I: Introductory, D: Developed, A: Applied, or blank*. I – The instructor will introduce the topic at the level required. It is not necessary for the student to have seen the material before. D – There may be a reminder or review, but the student is expected to have seen and been tested on the material before taking the course. A – It is expected that the student can apply the knowledge without prompting (e.g. no review).

Course Objectives and Specific Learning Outcomes	CEAB Graduate Attributes Indicators	Tentative Timeline
Unit 1: Introduction to Cloud Computing and Cloud Service Models **At the end of this unit, the students will be able to:**		
a. Define cloud computing, it components, and articulate its essential characteristics, such as on-demand self-service, broad network access, resource pooling, elasticity, and measured service.	KB4	Week 1
b. Distinguish between various cloud service models (IaaS, PaaS, SaaS) and deployment models (public, private, hybrid, community), citing appropriate use cases for each.	KB4	
c. Evaluate the benefits of cloud computing including accessibility, automatic updates, the pay-per-use model, and enhanced competitive advantages for businesses.	KB4	
d. Identify and analyze the primary challenges facing cloud computing, such as security and privacy risks, compliance issues, technical limitations, vendor lock-in, and the complexities associated with data mobility and management.	KB4	
Unit 2: Google Cloud Platform (GCP) Overview **At the end of this unit, the students will be able to:**		
a. Identify and describe key GCP services including computing, storage, and networking solutions, and explain how these services can be integrated to support various applications.	KB4, ET2	Week 2
b. Set up a GCP account, effectively use Google Cloud Skills Boost for hands-on learning, and understand fundamental GCP operations including VM creation and management using the Google Cloud Console.	ET2	
c. Conduct a comparative analysis of GCP with AWS and Azure, highlighting unique features and applications in cloud computing environments.	KB4, LL2	

Unit 3: Containerization and Virtualization **At the end of this unit, the students will be able to:**		
a. Explain the principles of virtualization, describe how virtual machines (VMs) operate, and identify different types of VMs, including system, process, and hardware virtual machines.	KB4	Week 3
b. Describe container technology, articulate its advantages over traditional virtualization particularly in terms of resource efficiency and application deployment, and explain its role in software development.	KB4	
c. Distinguish between containerization and virtualization, understanding their unique applications and how they contribute to cloud computing environments.	KB4, I1, I2	
d. Efficiently manage Docker containers: Create, operate, and manage containers using Docker, focusing on practical applications of Dockerfiles, networking, and volume management skills.	KB4, ET2, I2	
Unit 4: Introduction to Containers Orchestration **At the end of this section, the students will be able to:**		
a. Describe what container orchestration is and why it is necessary for managing complex applications, emphasizing the automation of deployment, management, scaling, and networking of containers as essential for efficient resource utilization, high availability, scalability, and load balancing.	KB4	Week 4
b. Explain the basic components and operation of Kubernetes (K8s), including its architecture (clusters, nodes, pods, services, labels and selectors), main features (self-healing, load balancing, secret management), and its role in microservices and cloud-native applications.	ET2	
c. Perform basic deployment and management of containers using Kubernetes, using practical hands-on examples to create and manage Kubernetes clusters, deploy applications using kubectl, and understand the function and application of YAML files in Kubernetes deployments.	ET2, I2	
Unit 5: Cloud Architecture and Design Patterns **At the end of this unit, the students will be able to:**		
a. Explain the components of cloud architecture, including front-end and back-end components, cloud-based delivery models, and the associated network infrastructure.	KB4	Week 5-6
b. Analyze different cloud design patterns such as client-server, distributed, service-oriented, microservices, publish-subscribe, multi-layered, event-driven, asynchronous messaging, pipe-filter, and serverless architectures, discussing their benefits, challenges, and use cases.	KB4, I3	
c. Discuss the principles of high availability, scalability, and load balancing in cloud environments, including concepts like elasticity, fault tolerance, and failover mechanisms.	KB4	
d. Design sustainable cloud architectures by implementing practices that reduce environmental impact, optimize resource utilization, and leverage renewable energy sources.	IESE 2, IESE 3	
e. Develop strategies for efficient resource utilization in cloud computing, focusing on best practices such as right-sizing, auto-scaling, load balancing, and continuous monitoring.	IESE 2, IESE 3	

Unit 6: Advanced Topics in Container Orchestration **At the end of this unit, the students will be able to:**		
a. Demonstrate the ability to create, configure, and manage Kubernetes clusters, including setting up clusters in Google Kubernetes Engine and deploying multi-node configurations.	KB4, ET2	Week 7-8
b. Design and deploy microservices on Kubernetes, understanding how to containerize applications, manage their deployments, and maintain inter-service communication using Kubernetes services.	KB4, ET2	
c. Apply best practices in Kubernetes for handling affinity and anti-affinity, which control how pods are placed in relation to one another, to optimize the deployment and operation of containerized applications.	ET2	
d. Implement load balancing strategies within Kubernetes to manage traffic across multiple nodes and ensure high availability and scalability of applications.	ET2	
e. Conduct practical exercises to deploy, expose, and manage microservices in a Kubernetes environment, understanding the role of services like Ingress and Load Balancer in external access to applications.	ET2, I2	
Reading Week		
Unit 7: DevOps in the Cloud **At the end of this unit, the students will be able to:**		
a. Articulate the principles of DevOps, including its impact on collaboration, speed, reliability, scale, and security in cloud-based application development.	KB4, ET2, I1	Week 10-11
b. Implement Continuous Integration (CI) and Continuous Deployment (CD) processes, distinguishing between the roles of each in the DevOps pipeline.	KB4, ET2, I1, I2	
c. Utilize key DevOps practices such as microservices architecture, infrastructure as code, and automated testing to improve software deployment and maintenance.	KB4, ET2	
d. Deploy application updates using advanced strategies like rolling deployments, canary releases, and blue/green deployments to ensure minimal downtime and facilitate rapid iteration.	KB4, ET2, I1, I2	
e. Develop and manage a CI/CD pipeline using cloud-native tools, integrating code commits, automated builds, and orchestrated deployments in a simulated production environment.	KB4, ET2, I1, I2	
Unit 8: Serverless Computing **At the end of this unit, the students will be able to:**		
a. Describe serverless computing, including its event-driven nature, automatic scalability, and pay-as-you-go pricing model.	KB4, ET2	Week 12-13
b. Identify and compare popular serverless platforms and technologies, focusing on their application in real-world scenarios.	KB4, ET2	
c. Develop serverless applications by implementing functions that respond to specific events, manage deployment, and integrate with various serverless services.	KB4, ET2, I2	
d. Understand and articulate the benefits and challenges of serverless computing, such as reduced operational management, potential cold starts, and the implications for long-running processes.	KB4	

e. Execute a practical serverless project, such as a mailing-list subscription app or a photo processing pipeline, using tools like Google Cloud Functions, Cloud Firestore, and Cloud Vision API.	KB4, ET2, I2	

Evaluation:
The following table outlines all the evaluation components and their respective contributions to the overall grade.

Course Component	Weight
Challenge Labs	15%
Exercise Labs	15%
In-class Participation	5%
Self-Learning	5%
Midterm Test	20%
Final Examination	40%

To obtain a passing grade in the course**, a mark of 50% or more must be achieved on each of the course components. A final examination, midterm test, laboratory, or self-learning mark less than 50% will result in a final course grade of 48% or less.**

Exercise/Challenge Labs:
Throughout the semester, students are required to complete exercise and challenge labs. All labs are individual tasks that form an essential component of the course and are provided through GCP Qwiklabs. Students can complete these labs either during scheduled lab hours or at their convenience outside of these times. It is crucial that all labs are completed by their respective deadlines. Detailed information about each lab, including the deadlines, will be communicated through OWL.

#	Lab Name	Lab Type	Mandatory	Duration	Units Covered
1	A Tour of Qwiklabs and Google Cloud	Demo	No	00:45	Introduction
2	Creating a Virtual Machine	Exercise	Yes	00:40	2
3	Introduction to Docker	Exercise	Yes	01:00	3
4	Kubernetes Engine: Qwik Start	Exercise	Yes	00:45	4
5	Orchestrating the Cloud with Kubernetes	Exercise	Yes	01:15	4
6	Deploy to Kubernetes in Google Cloud	Challenge	Yes	01:30	6
7	Migrating a Monolithic Website to Microservices on Google Kubernetes Engine	Exercise	Yes	01:30	6
8	Create and Manage Cloud Resources	Challenge	Yes	01:00	6
9	Managing Deployments Using Kubernetes Engine	Exercise	Yes	01:00	6
10	Google Kubernetes Engine Pipeline using Cloud Build	Exercise	Yes	01:30	7
11	Implement DevOps in Google Cloud	Challenge	Yes	01:30	7
12	Build a Serverless App with Cloud Run that Creates	Exercise	Yes	01:00	8
13	Serverless Cloud Run Development	Challenge	Yes	01:00	8

Self-Learning:
In this course, you will undertake a self-learning module using Microsoft Azure, designed to be completed individually. This task requires you to explore Azure's services independently, resulting in the achievement of a specific badge. Upon completion, submit both your achievement badge and a verification link as proof of your accomplishment. Detailed guidelines and deadlines for this module will be available on the OWL website, ensuring you have all the necessary information for successful self-learning.

Late Submission Policy:
There will be strict deadlines for the assignments. Marks will be deducted for late assignment. 10% per day will be subtracted for late assignment, to a maximum of 3 days late.

Self-Reported Absence:
No weight-shifting is allowed for self-reported absence, missed work will be due after covered period.

Class Participation:
Class participation, representing 5% of the total grade, is a critical component of this course. Students are expected to actively engage in interactive class activities. Marks will be awarded based on a range of assessments, including review quizzes, class attendance tracked via iClicker, OWL quizzes, and other methods at the instructor's discretion.

Laboratory:
Students will work on these assignments as a part of the lab sessions and as well as a part of their homework. In the online lab sessions, the TAs will provide clarifications, will answer questions, and provide tutorials to enable the completion of the above assignments.

Midterm Test:
There will be one midterm test. The test will be closed book (no books), with a duration of two hours.

Final Examination:
The final examination will take place during the regular examination period.

Use of English:
In accordance with Senate and Faculty Policy, students may be penalized up to 10% of the marks on all assignments, tests, and examinations for improper use of English. Additionally, poorly written work with the exception of the final examination may be returned without grading. If resubmission of the work is permitted, it may be graded with marks deducted for poor English and/or late submission.

Attendance:
Any student who, in the opinion of the instructor, is absent too frequently from class, laboratory, or tutorial periods will be reported to the Dean (after due warning has been given). On the recommendation of the department, and with the permission of the Dean, the student will be debarred from taking the regular final examination in the course.

Absence Due to Illness or Other Circumstances:
Students should immediately consult with the instructor or department Chair if they have any problems that could affect their performance in the course. Where appropriate, the problems should be documented (see the attached "Instructions for Students Unable to Write Tests or Examinations or Submit Assignments as Scheduled"). The student should seek advice from the instructor or department Chair regarding how best to deal with the problem. Failure to notify the instructor or department Chair immediately (or as soon as possible thereafter) will have a negative effect on any appeal.

- For more information concerning medical accommodations, see the relevant section of the Academic Handbook: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf
- For more information concerning accommodations for religious holidays, see the relevant section of the Academic Handbook: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

Missed Midterm Examinations:
If a student misses a midterm examination, the exam will not be rescheduled. The student must follow the Instructions for Students Unable to Write Tests and provide documentation to their department within 24 hours of the missed test. The department will decide whether to allow the reweighting of the test, where reweighting means the marks normally

allotted for the midterm will be added to the final exam. If no reasonable justification for missing the test can be found, then the student will receive a mark of zero for the test.
If a student is going to miss the midterm examination for religious reasons, they must inform the instructor in writing within 48 hours of the announcement of the exam date or they will be required to write the exam.

Cheating and Plagiarism:
Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. University policy states that cheating, including plagiarism, is a scholastic offence. The commission of a scholastic offence is attended by academic penalties, which might include expulsion from the program. If you are caught cheating, there will be no second warning.

All required papers may be subject to submission for textual similarity review to commercial plagiarism-detection software under license to the University for the detection of plagiarism. All papers submitted will be included as source documents on the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between the University of Western Ontario and Turnitin.com (http://www.turnitin.com).

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, in the relevant section of the Academic Handbook:
http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

Policy on Repeating All Components of a Course:
Students who are required to repeat an Engineering course must repeat all components of the course. No special permissions will be granted enabling a student to retain laboratory, assignment, or test marks from previous years. Previously completed assignments and laboratories cannot be resubmitted by the student for grading in subsequent years.

Internet and Electronic Mail:
Students are responsible for regularly checking their Western e-mail and the course web site (https://owl.uwo.ca/portal/) and making themselves aware of any information that is posted about the course.

Accessibility:
Please contact the course instructor if you require material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2111 ext. 82147 for any specific question regarding an accommodation.

Support Services:
- Office of the Registrar: http://www.registrar.uwo.ca/
- Student Development Centre: http://www.sdc.uwo.ca/
- Engineering Undergraduate Services: http://www.eng.uwo.ca/undergraduate/
- USC Student Support Services: http://westernusc.ca/services/

Students who are in emotional/mental distress should refer to Mental Health@Western,
http://www.health.uwo.ca/mental_health/, for a complete list of options about how to obtain help.

STATEMENT ON GENDER-BASED AND SEXUAL VIOLENCE

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced gender-based or sexual violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts, here. To connect with a case manager or set up an appointment, please contact support@uwo.ca.

INSTRUCTIONS FOR STUDENTS UNABLE TO WRITE TESTS OR EXAMINATIONS OR SUBMIT ASSIGNMENTS AS SCHEDULED

If, on medical or compassionate grounds, you are unable to write term tests or final examinations or complete course work by the due date, you should follow the instructions listed below. You should understand that academic relief will not be granted automatically on request. You must demonstrate to your department (or the Undergraduate Services Office) that there are compelling medical or compassionate grounds that can be documented before academic relief will be considered. Different regulations apply to term tests, final examinations and late assignments. Please read the instructions carefully.

A. GENERAL REGULATIONS & PROCEDURES

1. All first-year students will report to the Undergraduate Services Office by submitting the Academic Consideration Request Form, for all instances.
2. If you are an upper year student and you are missing a test/assignment/lab or examination you will report the absence by submitting Academic Consideration Request Form. Absences worth LESS THAN 10% of your mark, will be processed by your department office. If your course work is worth 10% OR MORE of your final grade, your request will be processed by the Undergraduate Services Office.
3. Check the course outline to see if the instructor has a policy for missed tests, examinations, late assignments or attendance.
4. Documentation must be provided as soon as possible. If no one is available in your department office or the Undergraduate Services Office, leave a message clearly stating your name & student number and reason for your call. The department telephone numbers are given at the end of these instructions.
5. If you decide to write a test or an examination you should be prepared to accept the mark you earn. Rewriting tests or examinations or having the value of a test or examination reweighted on a retroactive basis is not permitted.

B. TERM/MIDTERM TESTS

1. If you are in first year and you are unable to write a midterm/term test, contact the Undergraduate Services Office, SEB 2097 PRIOR to the scheduled date of the test.
2. If you are an upper year student and you are unable to write a midterm/term test, inform your instructor PRIOR to the scheduled date of the test and request relief through the Academic Consideration Request Form. If the instructor is not available, leave a message for him/her at the department office. If the test is worth LESS THAN 10% of your mark, your request for relief will be processed by your department office. If the test is worth MORE THAN 10% of your final grade your request for relief will be processed by the Undergraduate Services Office.
3. Be prepared to attach supporting documentation to the Department Chair and/or the Undergraduate Services Office through the online form (see next page for information on documentation).
4. Discuss with the instructor if and when the test can be rescheduled. The approval of the Chair or the Undergraduate Services Office is required when rescheduling midterm/term tests.

C. FINAL EXAMINATIONS

1. If you are unable to write a final examination, contact the Undergraduate Services Office PRIOR TO THE SCHEDULED EXAMINATION TIME to report your absence using the Academic Consideration Request Form and request permission to write a Special Final Examination. If no one is available in the Undergraduate Services Office, leave a message clearly stating your name & student number.
2. Be prepared to provide the Undergraduate Services Office with supporting documentation (see next page for information on documentation) the next day, or as soon as possible (in cases where students are hospitalized). The following circumstances are not considered grounds for missing a final examination or requesting special examinations: common cold, headache, sleeping in, misreading timetable and travel arrangements.
3. In order to receive permission to write a Special Examination, you must obtain the approval of the Chair of the Department **and** the Associate Dean and in order to apply you must submit an "Application for a Special Exam" form. The Undergraduate Services Office will then notify the course instructor(s) and reschedule the examination on your behalf.

PLEASE NOTE: **It is the student's responsibility to check the date, time and location of the Special Examination.**

D. LATE ASSIGNMENTS

1. Advise the instructor if you are having problems completing the assignment on time (prior to the due date of the assignment).
2. Be prepared to submit the Academic Consideration Request Form and provide documentation if requested by the instructor (see reverse side for information on documentation).
3. If you are granted an extension, establish a due date. The approval of the Chair of your Department (or the Assistant Dean, First Year Studies, if you are in first year) is not required if assignments will be completed prior to the last day of classes.
4.

   i. Extensions beyond the end of classes must have the consent of the instructor, the department Chair and the Associate Dean, Undergraduate Studies. Documentation is mandatory.
   ii. A Recommendation of Incomplete Form must be filled out indicating the work to be completed and the date by which it is due. This form must be signed by the student, the instructor, the department Chair and the Associate Dean, Undergraduate Studies.

E. SHORT ABSENCES

If you miss a class due to a minor illness or other problem, check your course outlines for information regarding attendance requirements and make sure you are not missing a test, laboratory or assignment. Cover any readings and arrange to borrow notes from a classmate.

F. EXTENDED ABSENCES

If you are absent more than one week or if you get too far behind to catch up, you should consider reducing your workload by dropping one or more courses. (Note drop deadlines listed below). You are strongly encouraged to seek advice from your Academic Counsellor in the Undergraduate Services Office.

G. DOCUMENTATION

If you consulted an off-campus doctor or Student Health Services regarding your illness or personal problem, **you must provide the doctor with a Student Medical Certificate** to complete at the time of your visit and then bring it to the Department (or the Undergraduate Services Office). **This note must contain the following information: severity of illness, effect on academic studies and duration of absence. Regular doctor's notes will not be accepted; only the Student Medical Certificate will be accepted.**

- ***In Case of Serious Illness of a Family Member:*** Provide a Student Medical Certificate to your family member's physician to complete and bring it to the Department (or the Undergraduate Services Office if you are in first year).
- ***In Case of a Death:*** Obtain a copy of the death certificate or the notice provided by the funeral director's office. You must include your relationship to the deceased and bring it to the Department (or the Undergraduate Services Office if you are in first year).
- ***For Other Extenuating Circumstances:*** If you are not sure what documentation to provide, ask the Departmental Office (or the Undergraduate Services Office if you are in first year) for direction.

***Note:* Forged notes and certificates will be dealt with severely. To submit a forged document is a scholastic offence (see below).**

H. ACADEMIC CONCERNS

1. You need to know if your instructors have a policy on late penalties, missed tests, etc. This information may be included on the course outlines. If not, ask your instructor(s).
2. **You should also be aware of attendance requirements in some courses. You can be debarred from writing the final examination if your attendance is not satisfactory.**
3. If you are in academic difficulty, check out the minimum requirements for progression in the calendar. If in doubt, see your Academic Counsellor.

- ***Calendar References:*** Check these regulations in your 2023 Western Academic Calendar available at: www.westerncalendar.uwo.ca.
- **Absences Due to Illness**: https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_135
- **Academic Accommodations for Students with Disabilities:** http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_10
- **Academic Accommodations for Religious or Holy Days:** http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_16
- **Course Withdrawals:** http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=6&SelectedCalendar=Live&ArchiveID=#Page_75
- **Examinations:** http://www.westerncalendar.uwo.ca/PolicyPages.cfm?PolicyCategoryID=5&command=showCategory&SelectedCalendar=Live&ArchiveID=
- **Scheduling of Term Assignments:** http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=5&SelectedCalendar=Live&ArchiveID=#SubHeading_78
- **Scholastic Offences:** http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_20

- **Student Medical Certificate**: https://www.eng.uwo.ca/files/undergraduate/student-medical-certificate.pdf
- **Engineering Academic Regulations:** http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=4&SelectedCalendar=Live&ArchiveID=#Page_86

Note: These instructions apply to all students registered in the Faculty of Engineering regardless of whether the courses are offered by the Faculty of Engineering or other faculties in the University.

Add Deadlines:

Deadline Description	Deadline Date
First term half course (i.e. "A" or "F")	September 15, 2023
Full courses and full-year half course (i.e. "E", "Y" or no suffix)	September 15, 2023
Second term half course (i.e. "B" or "G")	January 16, 2024

***Drop Deadlines*:**

Deadline Description	Deadline Date
First term half course without penalty (i.e. "A" or "F")	November 13, 2023
Full courses and full-year half courses without penalty (i.e. "E","Y" or no suffix)	November 30, 2023
Second term half or second term full course without penalty (i.e. "B" or "G")	March 7, 2024

Contact Information:

Contact Office Name	Office #	Phone #	Email
Undergraduate Services Office:	SEB 2097	519-661-2130	engugrad@uwo.ca
Chemical & Green Process Engineering	TEB 477	519-661-2131	cbeugrad@uwo.ca
Civil Engineering	SEB 3005	519-661-2139	civil@uwo.ca
Computer, Electrical, Mechatronic Systems & Software	TEB 279	519-661-3758	eceugrad@uwo.ca
Integrated Engineering	ACEB 2410	519-661-6725	engceli@uwo.ca
Mechanical Engineering	SEB 3002	519-661-4122	mmeundergraduate@uwo.ca