

CS2212A Course Outline

Introduction to Software Engineering

Fall 2026

1. Course Information

The informal approaches that most individual programmers use when writing small programs do not work very well when applied to the development of large pieces of software and team programming situations. Software engineering is a discipline that applies principles of traditional engineering to improve software, as well as its development and maintainability.

In this course, we will examine the stages of the software engineering process, including requirements gathering, specification, design, implementation, and testing. We will also cover the practicalities of software engineering, covering a number of the key tools and technologies leveraged in successful endeavours. A large group project, completed by teams of students, will serve to reinforce concepts learned and give students practical experience developing software in a realistic work environment.

The following list of topics may be covered, depending on time and the dynamics of the semester.

- Overview of software engineering
- Software processes and workflows
- Agile software development
- Software requirements gathering and modelling
- Software design concepts
- Implementation of software
- Testing and software quality management
- Managing software projects
- Enterprise-scale software and collaboration tools

Prerequisite Requirements

- Computer Science 2210a/b and 2211a/b
- Students are assumed to be familiar with the **Java programming language** and **Object-Oriented Programming**.

Antirequisites

- Software Engineering 2203A/B

Unless you have either the requisites for this course or written special permission from your Dean's Designate (Department/Program Counsellors and Science Academic Advisors) to enroll in it, you may 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.

2. Instructor Information

Instructor: Dr. Daniel Servos
E-Mail: [REDACTED] (please include CS2212 in the subject of all e-mails)
Office: [REDACTED]
Office Hours: [REDACTED]
Or by appointment booked via: [REDACTED]
Website: <http://danielservos.ca>

2.1. Office Hours

An open (drop-in) office hour is held each week (excluding reading week and ending on December 9th) on Monday from 9:30AM to 11AM. Students will be assisted on a first-come, first-served basis.

A limited number of private office hours are available each week by appointment at alternative times. These must be booked 12 hours in advance using the above link. When booking an office hour, you should include a description of the topic you wish to discuss and any relevant files including a copy of any assignment, project, document, etc. that you wish to ask questions about.

2.2. E-Mail Contact

Students must use their Western (@uwo.ca) email addresses when contacting their instructor and include "CS2212" in the subject line of their e-mail. Failing to do this may result in your e-mail being marked as spam and not delivered properly. Every attempt will be made to answer all e-mails within two business days (non holiday Mondays to Fridays). Please keep this in mind when deadlines are approaching and plan to start work early enough to receive a reply to any questions.

E-mails regarding personal matters and accommodations should be sent directly to the course instructor ([REDACTED]) and not a teaching assistant.

E-mails regarding assignment marking and regrading should first be addressed to the TA who marked your assignment and only to the course instructor if your discussion with the TA was not satisfactory.

General questions should be posted to the OWL Brightspace course forums.

3. Course Schedule & Delivery Mode

The format of this course will be one in-person lecture each week, asynchronous online videos to view before class, and a dedicated tutorial time for working on term long project. Readings, videos, and other online resources will be posted weekly to the OWL course site. To be successful in this course, you will need to both attend the in-person lecture and complete the assigned videos/readings.

Lecture*: Monday 2:30PM to 4:30PM in [REDACTED]
Tutorial*: Wednesday 3:30 PM to 5:30PM in [REDACTED]

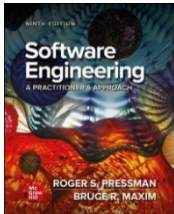
* Attendance and active participation in the lecture are required and part of your participation grade.
+ The tutorial will be used for teams to work on the term long group project. Students are expected to meet each week with their assigned team each Wednesday (does not have to be in [REDACTED]). No formal tutorial will be held.

Students are expected to bring blank paper and writing utensils to class. **Bringing a laptop is also highly encouraged** to enable you to follow along with examples and tutorials. If you do not have a laptop, please sit with someone from your group that has one so you can participate fully.

4. Course Materials

4.1. Recommended Textbooks

Readings from the following textbooks will be assigned each week. They are available for purchase [from the university bookstore](#) and other sources as both a physical book and eTextbook:



Software Engineering: A Practitioner's Approach

(Strongly Recommended)

9th Edition

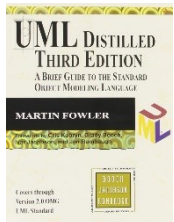
By Roger Pressman and Bruce Maxim

ISBN10: 1259872971

ISBN13: 9781259872976

Price: \$112.15 (printed), \$59.00 (180-day rental), \$99.00 (lifetime rental)

<https://www.mheducation.com/highered/product/1259872971.html>



UML Distilled: A Brief Guide to the Standard Object Modeling Language

(Strongly Recommended)

3rd Edition

By Martin Fowler

ISBN: 978-0321193681

Price: \$63.75

<https://martinfowler.com/books/uml.html>

Additional free online references and suggested readings may also be provided throughout the course as the project requires them. Please check the course OWL website weekly for updates and more information.

4.2. How the Textbooks will be Used

Readings from these texts will be assigned weekly on OWL. Typically, two chapters a week will be assigned from Software Engineering: A Practitioner's Approach and only occasionally from UML Distilled.

While **nothing from the textbooks will be directly graded**, they are **strongly recommended** as supplements to the lecture videos and provided course content. The course is designed around both completing the readings and watching the provided lecture videos each week.

We will **not** be using any online components of the text. Purchasing a used copy of either textbook is acceptable, but it is recommended that you find a copy that has the same edition number.

The UML Distilled text will be an important resource for you and your team when working on the group project and is **very strongly recommended**, however, this information can also be found for free via online resources and as such is not listed as required. Once teams are formed you may want to ensure at least one team member has a copy of this text.

4.3. Required Subscription (Kritik360)

All students taking CS2212 are required to have a subscription to Kritik360 (www.kritik.io/kritik360), a peer-to-peer learning and evaluation platform, and agree to their terms of service (<https://www.kritik.io/policy/terms-of-service>), privacy policy (<https://www.kritik.io/policy/privacy-policy>), and data policy for AI (<https://www.kritik.io/policy/data-policy-for-ai-purposes>). This is required for both submitting assignments and completing your peer evaluations of your team and other team's work. The feedback you submit and receive on Kritik360 will be part of your final grade. The cost of the subscription is \$22.

An email invitation will be sent to your Western email account that contains information on how to register for a Kritik360 account and enroll in the course. This email will be sent after add/drop date on September 17th. You can not purchase or setup your subscription until you receive this email invitation.

Note that the following information will be shared with Kritik360: your name, your Western email address, your group membership (for the team project), and the fact that you are registered in this course during this term. Kritik360 may also collect usage logs (access dates, times, IP addresses, etc.) to provide their online services as well as improve their services. You may optionally provide Kritik360 with your phone number to provide SMS reminders of due dates, but this is not required or recommended by the course instructor. It is also recommended that you do not share personal or identifying information in the feedback you provide to other students via the Kritik360 platform to keep your identity anonymous from other students. If you would like to opt-out of any data collection or Kritik360 use, please contact the course instructor for options.

Instructors and teaching assistants will have access to the assignments, evaluations, and feedback you submit/receive on Kritik360.

4.4. Other Technology Requirements:

- Access to a modern personal computer or laptop running Windows or macOS.
- A webcam (can be built into a laptop).
- A microphone (can be built into a laptop).
- A reliable internet connection.
- A laptop, smartphone, or tablet you can take to class that can access Western's Wi-Fi network and can open sites via a web browser.
- Other free or provided software including Java, JUnit, git, Zoom, a web browser, a UML diagram editor (e.g. draw.io), and a tool for mocking up UI wireframes.

4.5. OWL Course Site

The course website is located within OWL Brightspace. To access the website, navigate to <https://westernu.brightspace.com> and login with your Western University account (user id and password). Course content, including assigned readings, notes, assignments, and class information, will be posted to this site each week. **You are responsible for checking the course site regularly** (at least once a week including **both the weekly unit pages and announcements**). This is the primary method by which information will be disseminated to all students in the class.

If you need assistance with the OWL course site, you can find support on the [OWL Brightspace Help](#) page. Alternatively, you can contact the Western Technology Services Helpdesk. They can be contacted by phone at [REDACTED] or [REDACTED].

5. Methods of Evaluation

Element	Weight
Group Project	40%
Participation	10%
Group Peer Evaluations	5%
Midterm	12%
Final Exam	33%

5.1. Essential Requirements

Even when Academic Consideration is granted for missed coursework, the following are essential to earn a passing grade in this course:

1. You must obtain a weighted Midterm/Final Exam average of **at least 40%**. This average is weighted by the worth of each test in terms of your final grade.
2. You must attend and actively participate in the acceptance testing meeting with your team and TA at the end of the term.
3. You must attend and be an **active participant** in the group project which entails **all** of the following:
 - a. Obtain a **grade of 40% or over** on your team's peer evaluation of your performance in your team project. This is based on a weighted average of your midterm and final peer evaluation grades given by your team members and does not include the grade for the quality of the evaluation you wrote or for completing the feedback phase.
 - b. Contribute in some meaningful way to each milestone in the group project (as shown by the edit, commit, and issue history on GitLab). You must use your own account to make edits and commits to GitLab to create this history.
 - c. Regularly attending your **team's weekly meetings**. You must **attend at least half of these meetings** and document your attendance in the meeting minutes.

If you fail to satisfy any of these criteria, your maximum final grade for this course will be **capped at 48%**.

When a student has not demonstrated proficiency in an essential learning requirement listed above, and when the shortfall results from a granted Academic Consideration, they will be withdrawn (WDN) from the course. The student may appeal to the Associate Dean (Academic) for reinstatement with an Incomplete (INC) standing. Where an appeal for INC is granted, their maximum course load may be reduced during the term in which they complete the outstanding course requirements.

5.2. Rounding & Curving of Grades

Final grades will be rounded to a whole number using the common Half Round Up method. That is grades ending in a fractional part of 0.5 or higher are rounded up to the next whole number, and grades ending in a fractional part less than 0.5 will be rounded down to the previous whole number.

To ensure a consistent and fair grading scheme, project, quiz, midterm, and exam grades may be normalized or curved to ensure consistency in marking between different TA graders or peer evaluators.

6. Group Project

All students are required to be an active participant in a term long group project that will involve the specification, design, and implementation of a reasonably large-scale software system.

Details on the overall topic of the project will be posted to OWL by September 21st, with more details on each project milestone posted closer to the due dates in table below (*these dates are **tentative** and subject to change*). Any changes, updates, and clarifications to these descriptions and dates will be posted on the OWL website. **The due dates on OWL should be considered the official due dates.**

6.1. Project Milestones (*dates are tentative*)

The following table lists the milestones for the group project. For each milestone **your team leader** must make one submission to Kritik360 by the “Groups Submission Due Date”. Three days after the group submission date, **each individual student** must then complete a peer assessment of one other group’s work by the “Kritik360 Peer Assessment Due Date”.

Milestones	Weight (of your final grade)	Group Submission Due Date (by 11:59PM) (tentative)	Kritik360 Peer Assessment Due Date (by 11:59PM) (tentative)
Planning Documentation	6%	Thursday Oct. 1st	Wednesday Oct. 7th
Requirements Documentation	9%	Thursday Oct. 22nd	Wednesday Oct. 28th
Design Documentation	9%	Thursday Nov. 5th	Wednesday Nov. 11th
Testing Documentation & Project Demo Video	9%	Thursday Dec. 3rd	Wednesday Dec. 9th
Final Implementation & Delivery (only evaluated by TA)	7%	Thursday Dec. 3rd	N/A

All dates listed above are tentative and subject to change.

The project components are worth 40% of the overall mark for the course. If a component must be cancelled for the whole class for any reason, the remaining project component weights will be pro-rated to add up to 40%.

6.2. Evaluation of Project Milestones

Each project milestone (except for final implementation and delivery) will be evaluated through both TA and peer assessments using the Kritik360 platform. This will happen in three stages for each milestone:

- o **Stage 1: Your group's team leader** submits a copy of their milestone via Kritik360 by the "*Group Submission Due Date*", all images, PDFs, diagrams, videos, files, etc. must be included in this submission. Peer evaluators will not have access to your GitLab project or local files. Any missing files or components will be given a zero grade.
- o **Stage 2:** Three days after the "*Group Submission Due Date*" the evaluation phase will start in which each individual student (not as a group) will evaluate the work of another team via the Kritik360 platform. This evaluation must be completed by the "*Kritik360 Peer Assessment Due Date*". **This is an individual submission.**
- o **Stage 3:** One day after the *Kritik360 Peer Assessment Due Date* the feedback phase will open, and you will have **two days** to submit your feedback on the evaluation you received from another team. For example, if the peer assessment was due on October 7th, and the feedback phase opened on October 8th, you would need to give your evaluation of the feedback by October 10th at 11:59PM. **This is an individual submission.**

Your individual grade on a given milestone (except for final implementation and delivery) will be calculated using the following weightings:

- o 50% based on the TA's evaluation of your group's work using the same rubric as shown on Kritik360 (*this is the grade shown on OWL Brightspace for the assignment*).
- o 50% based on your Kritik360 grade (*this is the grade shown on Kritik360*).

Your Kritik360 grade is comprised of three parts:

- o 75% based on the peer evaluation of your group's work by other students.
- o 20% based on the quality of the peer evaluation you completed of another group's work.
- o 5% for evaluating the feedback your group was given.

6.3. Appealing a Milestone Grade

If you feel your work was unfairly evaluated by a peer evaluator or your assigned teaching assistant, you must appeal the grade within 1 week of the grade being returned to you.

To appeal a grade from a teaching assistant:

1. Contact the teaching assistant assigned to your team via their email and explain in detail why you feel your work was incorrectly evaluated. Be specific and provide justifications for why the evaluation is incorrect or unfair.
2. If your teaching assistant agrees with your appeal, they can adjust the grade.

3. If you disagree with your teaching assistant's determination or they fail to respond in one week, you may escalate your appeal to the course instructor by emailing them. In your email, please forward any communications with your teaching assistant related to the appeal and include detailed justification of why you feel your teaching assistant's assessment was incorrect.

To appeal a grade from a peer-evaluation:

1. Have your team leader input a dispute on Kritik360 (disputes will not be accepted via email or another method). In your dispute be specific and provide justifications for why the evaluation is incorrect or unfair. Only disputes that address a factual error in marking will be considered.
2. The course instructor will review your dispute and adjust peer evaluation grades if needed.

Appeals made after the 1-week deadline will not be considered. Any appeal that fails to include the required justification will not be considered (e.g. you can not ask for a milestone to be regraded without an explanation as to why the initial evaluation was incorrect).

Peer evaluators are allowed some level subjectivity in their evaluation. The course instructor will not override peer marking for subjective rubric items so long as they are reasonably justified, and there must be a substantial difference between the grade given by the peer evaluator and what the instructor would deem correct (at least one full rubric level).

6.4. Rules for Milestone Work and Submissions

- All milestones must be type-written for legibility and digitally created (not scans or photos of written work) to facilitate electronic submission. If components require the creation of diagrams or illustrations, these too must be done electronically. Appropriate tools will be discussed in class and in the descriptions of the components.
- All digital submissions (including diagrams) must be legible and written in English. Any submissions that cannot be understood by the marker (due to spelling, grammar, language used, poor image resolution, being cut off, etc.) will be given a zero grade. **It is your team's responsibility to ensure all diagrams are legible, not cut off, and have a reasonable resolution.**
- All documentation and code must be created collaboratively and developed progressively using the GitLab project site provided to your team. GitLab creates a history of your contributions and **failing to use GitLab or use your own account on GitLab may result in no evidence of your contributions** to the groups work (this is important for passing the essential requirements in section 5.1).
- You are required to submit each component electronically through Kritik360 **in addition to** retaining a copy on GitLab. If final submissions are too large for a Kritik360 submission, alternate arrangements must be made with the course instructor before the due date. All work products (text, diagrams, code, videos, etc.) must be included in the Kritik360 submission. Peer evaluators will be unable to access your GitLab project or links you provide. **Anything that is missing from the Kritik360 submission will be given a zero grade.**
- **Milestones are expected to be individual efforts (where individual could also mean designated group in the case of a group project such as this).** Any code or content that is

borrowed from an existing source, book, course resource, generated by a tool, or created by a person not in the group must be clearly identified as such in the appropriate documentation; otherwise, this may constitute a plagiarism offence. This includes any code created by AI tools such as ChatGPT, Copilot, Claude, Gemini, or Code Autopilot as well as any other tool that generates code, text, or diagrams. See the table in section 10 for details on what AI use is allowed.

- While discussion about the project is encouraged between groups, directly using code or copying from another group (including groups from past terms) is strictly prohibited and a scholastic offence for all groups involved. Groups should not share any work products directly with other groups.
- Using code or content you have previously created (e.g. for past courses or projects) is not allowed without written permission from the course instructor. This includes any work created for this course in past terms (if you are retaking it).
- Borrowing a large amount of code or content from outside sources (even if it is properly identified) will lead to a reduced grade. You will only be granted marks on content your team writes and implements. If you have any doubt about how much is too much, please ask the course instructor for guidance.

6.5. Formation of Your Team

- You will be given the opportunity to form your own teams of 4 or 5. The deadline for doing so is September 17th. After this date the instructors will finalize the composition of the teams. Students who are not on a team will be placed on a team by the instructor. The instructor will attempt to make sure that each team has at least 4 members and no more than 5 members.
- If a team has less than 5 members, the instructor may add additional team members at their discretion. Teams with less than 4 members may be broken up and members assigned to alternative teams.
- All teams with 4 or 5 members will be assessed the same regardless of the number of members. Teams that drop to less than 4 members (e.g. due to a student dropping the course) should contact the instructor as soon as possible for other arrangements to be made (it is the team's responsibility to do this in a timely manner).
- Individual students may submit a request to be taken out of the team to which they were assigned for a **good reason** (such as a prior conflict with one of the team members). Such requests must be made to the instructor before September 25th and detail the good reason.

6.6. Weekly Team Meetings

- Students are required to keep in contact and collaborate closely with their teammates through weekly meetings scheduled and organized by the team **starting on September 21st**.
- Weekly meetings may occur in-person or virtually online (e.g. using Zoom or MS Teams). **Online meetings cannot be done solely through e-mail or a text/audio only medium and require that all members have their webcam on during the meeting.**
- Weekly meetings should be **at least** 1 hour long, and it is highly recommended that you use some of this time to work on project deliverables together collaboratively (e.g. utilizing pair-

programming). **The tutorial time is provided as free time that all team members must have available.**

- **Each team is required to write minutes of each team meeting**, listing date, time, attendance, what the topics of discussion in the meeting were, any decisions that were made, and which team members were assigned which tasks. **Falsifying the details of who was in attendance in a group meeting is an academic offence for all parties involved.**
- A weekly meeting is not required during reading week or after the acceptance testing has been completed.
- Weekly meetings cannot be held on holidays recognized by Western University or reading week unless all team members agree to meet on these dates.
- All team members are expected to attend these meetings and teams are expected to schedule meetings during times when all members can attend. Should teams be unable to find a common time/day of week/location, they must use the tutorial time and room.
- Failing to hold or properly document these meetings may impact the team's project grade or result in team members being unable to fulfill the essential requirements given in section 5.1.

6.7. Acceptance Testing

- **Acceptance Testing will take place between December 7th and 9th.** The exact date and time of acceptance testing must be arranged with your assigned TA closer to the date.
- This involves meeting with your team's TA one last time for acceptance testing where your team will demonstrate your software, show how it fulfills all requirements, and answer any questions about the process and design of their project. **All team members must be present for acceptance testing.**
- Teams are responsible for working with their TA to schedule a date/time that works for all team members and their assigned TA. **No class will be held this week to give times when all students should be available.**

7. Group Peer Evaluations

At two times during the course, you will be asked to provide peer evaluations of your team members. This will occur at approximately halfway through the course and at the end of the semester as shown in the following table.

Group Peer Evaluation	Weight (of your final grade)	Kritik360 Peer Evaluation Due Date (by 11:59PM (tentative))	Feedback Phase Due Date (by 11:59PM (tentative))
Midway Peer Evaluation (evaluated using Kritik360)	2%	Wednesday Oct. 28th	Monday Nov. 2nd
Final Peer Evaluation (evaluated using Kritik360)	3%	Monday Dec. 7th	Friday Dec. 11th

Each peer evaluation will happen in two stages (*there is no creation stage for these peer evaluations*):

- o **Stage 1:** You will evaluate the work of each of your team members including yourself via Kritik360. This must be completed before the “*Kritik360 Peer Evaluation Due Date*”.
- o **Stage 2:** The feedback phase will open one day after the “*Kritik360 Peer Evaluation Due Date*”. By the “*Feedback Phase Due Date*” you must evaluate the quality of feedback you received from your team members.

Your grade on a given peer evaluation will be calculated using the following weightings:

- o 75% based on the peer evaluation of your work to date by the group.
- o 20% based on the quality of the peer evaluations you completed of your team members.
- o 5% for evaluating the feedback you were given by your team members.

8. Exams

Midterm Exam

The midterm exam will be **in-person** and **tentatively** scheduled for **Saturday, October 24th** and will be **2 hours long**. The midterm exam will cover all course material covered in weeks 1 to 5 (including videos, in-class content, etc.) and will be **closed book**. You may use a single non-programable calculator (with no screen capable of displaying text or images, no keyboard, and no internet connection) during the exam.

Final Exam

The final exam, for all sections, will be scheduled by the University. The exam period is from December 11th to 22nd, 2026 and the exact date, time, and location for our exam will likely be announced in November.

The final exam is **closed book** and is **3 hours in length**. You may use a single non-programable calculator (with no screen capable of displaying text or images, no keyboard, and no internet connection) during the exam.

You must be available during the final exam period. No special (make up) exam will be offered if you are absent due to avoidable travel conflicts.

9. Participation

As Computer Science is a highly collaborative field, it is important to develop the skills and tools you need to work with others on complex programming and technical problems. For this reason, CS2212 in-class lectures makes use of active learning and group work activities. It is expected that you will be an active participant in all course activities and come prepared by completing the required readings and videos before class each week.

Participation will be tracked using “participation points” that are awarded for different activities that demonstrate engagement and participation in the course, aiding other students, completing in-class activities, answer questions in-class, or making meaningful contributions on the course forums. The following are examples of activities that award participation points (other opportunities may be added at the instructor’s discretion):

Activity	Participation Points	Description
Attending and actively participating in a lecture.	Up to 125 points per week and at most 1,250 in total.	Each lecture may include a group work activity or tutorial section that asks you to work with a group to complete a small poll, quiz, short written response, or other activity. Completing these (even if your answer is incorrect) will reward points so long as the instructions of the activity were followed correctly and clear effort was put into your answers. These activities must be done in-class during the designated time, and your attendance/submission must be recorded. No points will be awarded for nonsense answers, submitting the wrong file, or leaving questions blank.
Attending a Weekly Meeting with your team.	50 points per meeting, and at most 550 in total.	Attending one of your regularly scheduled meetings with your team will earn 50 points but only if you are an active participant in the meeting and document your attendance in the meeting minutes. To count you must arrive on time and stay for the duration of the meeting and the minutes for the meeting must be on your team’s GitLab wiki within 1 week of the meeting date. Acceptance testing also counts as a team meeting for the purposes of participation points if you document on your wiki. At most one team meeting per week will count towards participation points and a meeting must involve at least two team members to count.
Completing a participation quiz.	50 points per quiz and at most 550 in total.	Each week a short quiz will be posted to OWL Brightspace. This quiz will have content that covers the lecture videos assigned for the upcoming lecture. Completing the quiz before the due date (typically date/time of the next lecture) with a grade of at least 80% will grant 50 participation points. You may retake the quiz as many times as required to obtain the 80% grade up until the due date.
Watching a lecture video.	10 points per lecture video.	If OWL Brightspace records you as having watched a lecture video, this will grant 10 participation points per video. To count for participation points you must watch the video at least once on Brightspace (rather than via YouTube directly) and click the completed button if shown by Brightspace.
Complete the Kritik360	125 points.	Completing the Kritik360 calibration activity before

Calibration Activity		October 1 st will grant 125 participation points. This activity should be available as soon as you have access to Kritik360 and will remain available until October 1 st .
Help another student by answering a question on the course forums.	Up to 50 points per answer, and at most 300 in total.	Answering an unanswered question posted by another student on the course forums in a meaningful way or significantly adding to an already answered question. To count, the answer must be posted in good faith and within in one week of the question being asked. No points will be awarded to students working together to post/answer questions purely for points. Most meaningful answers will be given 25 points on average depending on the quality. At most 300 points can be earned from answering questions on the forums.
Creating a tutorial and posting it to the course forums.	Up to 200 points per tutorial, and at most 400 in total.	Creating a tutorial related to one of the topics, technologies, or software used in the course that is not otherwise covered by the course material and posting it to the OWL course forums. To count for points, 1) the topic may not already be covered by a tutorial posted by another student, 2) the tutorial must be detailed, and clear effort must have been done to create it (equivalent of at least one hour of work), 3) the tutorial must have been posted at a time in the course when it would be helpful to other students (i.e. it can not be on a topic for which the related project component is already due), 4) it must contain content not fully covered by the course material, 5) it must include graphics/media (e.g. screenshots, diagrams, video, example files, etc.) to demonstrate the concept being taught, 6) must be in your own words and not created by generative AI or copied from another source. Most primarily text-based tutorials will be given 100 points on average depending on the quality. Most video-based tutorials will be given 150 on average depending on the quality. At most 400 points can be earned from posting tutorials and at most 200 points per tutorial.

Participation points will be converted into percentage (out of 10%) to calculate your final participation mark using the following table:

Level	Grade (out of 10%)	Minimum Participation Points Required
0	0%	0
1	1%	250
2	2%	310
3	3%	390
4	4%	480
5	5%	610
6	6%	770
7	7%	990
8	8%	1,280

9	9%	1,670
10	10%	2,200

No fraction of percentages will be granted for participation. You must make it to the next level to increase your participation grade. For example, 989 points would still be a level 6, worth 6%.

Important! If you experience technical issues during the lecture that prevent you from submitting the in-class group work or recording your attendance you **must** inform the instructor during or immediately after the lecture (before the instructor leaves the room). Failing to do so will result in no participation points being earned for the activity.

Due to technical limitations, participation points will not be updated live, and it is your responsibility to estimate them if you wish to track your progress. The official calculation will only be done **after** December 9th and **all work that counts towards participation must be completed by December 9th at 11:59pm.**

The final subjective decision of what constitutes a “meaningful contribution” or how many points is assigned for a contribution is at the sole discretion of the course instructor. Quantity or length of posts/answers is not a substitute for quality and multiple low-quality posts/answers do not add up to one meaningful contribution. While spelling and grammar will not be marked, all posts/answers must be legible, intelligible, and written in English.

To encourage students to read this course syllabus, 50 participation points can be earned by navigation to <https://forms.cloud.microsoft/r/LM1zqH3dL0> and completing the form by October 1st. No points will be granted for this after this date. You may not share this link with other students and must use your Western account to fill out the form.

At the instructor’s sole discretion, participation points may be removed for disruptive in-class or online behaviour including but not limited to talking during inappropriate times, inappropriate comments, or failing to work well with other students during group work activities. Participation points may also be removed for attempting to “cheat” the participation system. For example, submitting in-class group work for students not in attendance or otherwise falsifying participation records. Spamming the discussion forums or any in-class response system with low quality posts purely to inflate your participation mark may also be penalized.

Submitting in-class work for a student that is not present in-class or having your in-class work submitted when you are not present in-class are both academic offences and will be reported to the department’s integrity committee. This will result in a zero participation grade (0% out of the possible 10% it is worth for your final grade) and any additional penalties determined by the department’s integrity committee or the Dean’s office.

10. Generative AI

The use of generative AI tools (such as ChatGPT, Claude, Copilot, Gemini, et. al) is allowed in this course under the restrictions and limitations outlined in the following table:

Use of Generative AI	Allowed / Not Allowed	Restrictions / Notes
During a Quiz or Exam	Not Allowed	
Writing Planning, Requirements and Design Documentation	Not Allowed	
Creating UML or Other Diagrams	Not Allowed	
Generating Javadoc Comments	Not Allowed	
Generating Final Demo Video	Not Allowed	You may use AI to generate music and image assets for the video, but the voice over, screen recording, and content must be created by your team.
Writing Peer Evaluations, Completing Peer Marking, or Providing Peer Feedback	Not Allowed	All peer evaluations (both of other team's milestones and of your team members) must be written by you and in your own words. You may not use generative AI to grade other student's work and may not submit other student's work to generative AI.
Writing forums posts.	Not Allowed	You may not use generative AI to write any forum posts that are indented to count for participation points. These must be written by you and in your own words.
Editing and Proof-Reading Requirements and Design Documentation	With Restrictions	The use of the tool must not generate any content and only provide suggestions on spelling, grammar, etc. that would be equivalent to a human editor. You should never be copying and pasting text from generative AI directly into your documentation. A good practice is to ask the tool to create a table of corrections with suggested fixes rather than rewriting any text for you. This use of generative AI must be cited in your Requirements or Design Documentation
Researching and Brainstorming for Project Milestones	With Restrictions	The use of the tool must not write any part of the Requirements or Design Documentation for you, but may be used to brainstorm ideas, find sources, and research/explore ideas. This use of generative AI must be cited in your documentation.

Checking UML Diagrams for Correctness	With Restrictions	You may use generative AI tools to check your work, so long as they do not generate any part of the diagrams. A good practice is to ask the tool to create a table of corrections with suggested fixes rather than drawing you a new diagram. Warning: some generative AI tools perform poorly at this task and may give poor or incorrect suggestions. Always think critically about the responses you are given and double check the UML standards.
Generating Code for the Project's Implementation	With Restrictions	All generated code must be clearly cited in the comments of your code. It must always be clear what code was created by your team members and what was generated by a tool. Your team is responsible for any code generated and ensure it correctly implements your design and functions correctly. Your team should be fully testing and evaluating any code created by a tool. Don't just assume it works or follows your design!
Generating JUnit Tests	With Restrictions	All generated code must be clearly cited in the comments of your code. It must always be clear which tests were created by your team members and what was generated by a tool. Tests that were completely generated by a tool will not be considered you or your team's contribution. If the majority of your JUnit tests are generated by AI, this can result in a poor testing grade. Your team should be able to explain each test in your project, what it tests, and why it is worth including regardless of how it was created.
Checking and Suggesting JUnit Tests	Allowed	You may use generative AI tools to suggest tests and check tests you created for correctness and evaluate their effectiveness. A good practice is to ask the tool to create a table of corrections with suggested fixes rather than having it rewrite the code of your test. This use does not need to be cited if it does not generate code.
Providing Help with git	Allowed	You may use generative AI tools to help you use

and GitLab		and troubleshoot git and the GitLab software. This use does not need to be cited if it does not generate code.
Debugging and Troubleshooting Code	Allowed	You may use generative AI tools to help you debug and troubleshoot your implementation code and JUnit tests. A good practice is to ask the tool to create a table of corrections with suggested fixes rather than having it rewrite the code. This use does not need to be cited if it does not generate code. Any generated code must be cited.
Generating Media Assets (Images, Sprites, Music, UI Elements, etc.) for Final Software Implementation	Allowed	You may use generative AI tools to create media (images, music, sprites, etc.) for use in the final implementation of the project. This use does not need to be cited if it is limited to image files (.png, .jpeg, etc.) or music files (.mp3, etc.). However, if it includes code or text it should be cited as per the citation guidelines.
Studying for Tests	Allowed	You may use generative AI to generate practice questions, tutoring, and for other studying purposes so long as it is not used during a test (including quizzes and exams).
Other Uses	Ask your instructor	If your use of generative AI is not listed here, ask your instructor for permission before using it.

Citing Generative AI Use

Any citation format is allowed for citing AI use, however, it must include the tool used, who used it, a clear description of what was generated, a very short summary of the prompt(s) used, and where possible you should share and link to your conversation with the tool in your citation.

For an example guideline on how to cite your use of generative AI, please see The Artificial Intelligence Disclosure (AID) Framework: https://subjectguides.uwaterloo.ca/chatgpt_generative_ai/attribution

Responsibility for AI Generated Content

Even in cases where use of generative AI is permitted in this course, your team is responsible and accountable for any content submitted in your course work. You are expected to review all outputs from AI tools and ensure they meet all requirements for the assessment, do not violate any university wide rules, and that your use of AI complies with the Generative AI rules in this course outline.

You and your team are also responsible for the actions of any AI tools and should not give them uncontrolled access to your files or GitLab project. No accommodation or extension will be given for an AI agent deleting files or otherwise damaging your GitLab repository or wiki.

11. Contingency Plans

Should Kritik360 be unavailable or fail to accommodate the marking schemes or policies in this course outline, the course instructor reserves the right to move assignment submissions to OWL Brightspace and use other means to collect peer evaluations.

Should any exam be unable to be held in-person (e.g. due to a pandemic or other emergency situation) the evaluation scheme described in this outline will remain the same, but evaluations and lectures may be moved online using software such as Proctortrack or Zoom. You agree to use this software and accept their terms of use and privacy policies and that you will require a webcam and microphone.

Should a lecture be cancelled, an alternative means of earning the 125 participation points for the cancelled lecture will be offered. Information about the alternative will be posted to OWL Brightspace should that occur.

12. Information about Missed Coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs*, posted on the Academic Calendar:
https://uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf,

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person. The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](#).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage: https://registrar.uwo.ca/academics/academic_considerations/
All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline.

12.1. Midterm

This course has one midterm exam and a **cumulative** final exam. There is no makeup test for a missed midterm. If a student misses a midterm, its weight will shift automatically to their final exam grade. If their final exam grade is higher than their midterm grade, their final exam grade will replace the midterm's weight in their overall grade. They do not need to request Academic Consideration for a missed midterm; the reweighing will be done automatically.

The only exception is an early sitting, offered solely for a university-sanctioned schedule conflict (e.g., conflict of two midterms, Varsity competitions) or a religious accommodation that prevents a student from writing the midterm at its scheduled time. If a student requires this accommodation, they must notify their instructor in writing no later than one week before the test. No other circumstance, including illness, qualifies for an early sitting or makeup; these are addressed through the automatic reweighting described above.

12.2. Group Project & Milestones

All project milestones are considered to be essential parts of the term long group project and teams are expected to complete all milestones such that they may deliver a finished project at the end of the term. **The group project as a whole is the one course element designated by the instructor that a undocumented absence may not be used on.**

12.2.1. Group Submission Due Date

To provide flexibility each **Group Submission Due Date** has a **72-hour no-late-penalty period**. During this period no late penalty will be given to the group milestone submission. For example, if an assignment is due on November 5, you may submit it until November 8 without penalty. After this 72-hour period, no further submissions will be accepted, and a zero grade will be given for the milestone. It is not possible for your instructor to reopen the creation phase on Kritik360.

12.2.2. Kritik360 Peer Assessment Due Date

To provide flexibility for performing your individual peer evaluation of another team, each **Kritik360 Peer Assessment Due Date** has a **24-hour no-late-penalty period**. During this period no late penalty will be given to the peer evaluation grade. For example, if an assignment is due on November 5, you may submit it until November 6 without penalty. After this 24-hour period, no further submissions will be accepted, and a zero grade will be given for your peer evaluation. It is not possible for your instructor to reopen the peer evaluation phase on Kritik360.

If you will miss the peer evaluation due date and no-late-penalty window for a legitimate absence covering the due date and no-late-penalty window, please contact your course instructor to discuss possible accommodations.

12.2.3. Feedback Due Date

Within two days of receiving your peer evaluation on a milestone, you must complete the Feedback Phase on Kritik360 and provide feedback on the peer evaluation you were given. This is a hard deadline and no extensions or no-late-penalty period is provided. Submissions will close on the due date and a zero grade will be given for any incomplete feedback submissions.

If you will miss the feedback due date for a legitimate absence, please contact your course instructor to discuss possible accommodations.

12.2.4. Team Leader Unable to Submit Milestone

Should your team's leader be unable to submit your project milestone on time, it is your team's responsibility to either contact your course instructor or Kritik360's technical support to have your team leader changed. Your team should have a plan in place to ensure the team leader submits by any due date (e.g. assign a second team member to confirm the submission has been made and contact the course

instructor if the team leader needs to be changed). You should submit well enough in advance of any deadline to ensure that the team leader can be changed before the due date if needed.

12.2.5. Individual Group Member Absences

Individual absences will not result in any change to the group submission due date. If you will be unable to complete your share of the work on a project milestone due to a legitimate absence, it is your responsibility to work with your team members to switch responsibilities such that you do more work in future milestones or other areas of the project. This must be documented in your team's contract on your GitLab wiki. You are not required to disclose any personal or medical details of your absence but are required to inform your group of the time period you will be unavailable.

12.2.6. Acceptance Testing

The acceptance testing meeting is an essential requirement of this course. If you will miss the acceptance testing meeting with your TA at the end of the term you must submit a documented consideration request. Failing to attend this meeting without documentation will result in you not passing the essential requirements as described in section 5.1.

12.3. Team Member Peer Evaluations

The flexibility described in section 12.3 is specifically for the peer evaluations of your fellow team members and not the evaluation of other team's milestones (see section 12.2 for flexibility for that course element).

12.3.1. Kritik360 Peer Assessment Due Date

To provide flexibility for performing your individual peer evaluation of another team, each **Kritik360 Peer Assessment Due Date** has a **24-hour no-late-penalty period**. During this period no late penalty will be given to the peer evaluation grade. For example, if an assignment is due on November 5, you may submit it until November 6 without penalty. After this 24-hour period, no further submissions will be accepted, and a zero grade will be given for your peer evaluation. It is not possible for your instructor to reopen the peer evaluation phase on Kritik360.

If you will miss the peer evaluation due date and no-late-penalty window for a legitimate absence covering the due date and no-late-penalty window, please contact your course instructor to discuss possible accommodations.

12.3.2. Feedback Due Date

You must complete the Feedback Phase on Kritik360 and provide feedback on the peer evaluations you were given by the *Feedback Phase Due Date*. This is a hard deadline and no extensions or no-late-penalty period is provided. Submissions will close on the due date and a zero grade will be given for any incomplete feedback submissions.

If you will miss the feedback due date for a legitimate absence, please contact your course instructor to discuss possible accommodations.

12.4. Participation (*Lectures, Team Meetings, & Weekly Quizzes*)

The participation system described Section 9 offers enough opportunities to make up for most missed lectures or weekly team meetings (only 2,200 participation points are needed for a full participation grade, but closer to 3,000 points are possible). Should you miss a lecture or team meeting, you should make up for the missed points by completing one or more of the optional participation point opportunities to make up for the missed points, such as writing a tutorial for the course forums (see requirements and rules in Section 9).

Should you miss more than 500 points worth of participation activities please submit a consideration request covering at least 500 points worth of lectures, team meetings, weekly quizzes, etc. Consideration requests for participation covering less than 500 points worth of activities will be rejected. The accommodation given for valid requests will either involve transferring some portion of your participation grade to the final exam or reweighting of the table from Section 9 (depending on the circumstances of your absence).

12.5. Special Examination

Per university policy, Academic Consideration requests with supporting documentation are required for the final examinations scheduled during official examination periods by the Registrar's Office.

If the student has been approved by the Academic Advising Office to write a Special Examination (SPC) and the final exam is their only outstanding course component, an SPC will be assigned to them and scheduled by the instructor per university policy.

If the student misses their SPC exam and is approved for Academic Consideration, they will be withdrawn from the course without academic penalty. If they experienced extenuating circumstances such as prolonged illness, they may appeal to the Associate Dean (Academic), on a case-by-case basis, for the opportunity to write the final exam the next time the course is offered. An outstanding SPC will reduce their course load for the term in which the exam is deferred, as outlined in the [Definitions of Types of Examinations](#) policy.

If the student misses their SPC exam and Academic Consideration is not approved, or was not requested, they will receive a grade of zero on the exam.

13. Additional Statements

13.1 Religious Accommodation

When a recognized religious holiday either requires a student to be absent from the University, or requires or prohibits an activity that makes it impossible for them to complete an academic requirement scheduled that day, they are entitled to accommodation. No student will be penalized for an absence for religious reasons, and an alternative means of satisfying the requirement will be arranged. This accommodation is provided in accordance with the University's policy on Accommodation for Religious Holidays:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

The student should submit their requests through the Student Absence Portal (SAP), identifying the conflict and the specific course component(s) affected (e.g., test, midterm, exam).

Midterm: If a religious observance conflicts with a midterm test, they must submit their request no later than **one week** before the test. Their instructor will arrange an early sitting of the test. As set out above, no makeup test is offered for any other reason; this early sitting is available specifically for this accommodation.

Final Examinations: If a religious observance conflicts with the final exam, the student must submit their request no later than **two weeks** before the exam. Their instructor will arrange a Special Examination to take place no later than one month after the end of the examination period.

Students are responsible for finding out what was covered in any class they miss due to a religious observance, and for taking the appropriate steps to keep up with the course.

If a suitable arrangement cannot be reached between a student and their instructor, they should consult the Undergraduate Chair of the department offering the course, and if necessary, the Associate Dean (Academic) of the Faculty of Science.

For a list of recognized religious observances, please visit the calendars posted on the Equity, Diversity & Inclusion website - <https://www.edi.uwo.ca> (About Us – Resources – Additional Resources – Calendars).

13.2 Academic Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf.

13.3 General Academic Policies

The website for Registrar Services is <https://www.registrar.uwo.ca/>.

Use of @uwo.ca email: In accordance with policy, https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf, the centrally administered e-mail account provided to students will be considered the individual's official university email address. It is the responsibility of the account holder to ensure that emails received from the University at their official university address are attended to in a timely manner.

Requests for Relief (formally known as “appeals”)

Policy on Request for Relief from Academic Decision:

https://uwo.ca/univsec/pdf/academic_policies/appeals/requests_for_relief_from_academic_decisions.pdf

Procedures on Request for Relief from Academic Decision (Undergraduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/undergrad_requests_for_relief_procedure.pdf

13.4 Scholastic Offences

Policy on Scholastic Offences:

https://uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_offences.pdf

Procedures on Scholastic Offences (Undergraduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/undergrad_scholastic_offence_procedure.pdf

Use of Electronic Devices During Assessments

In courses offered by the Faculty of Science, the **possession** of unauthorized electronic devices during any in-person assessment (such as tests, midterms, and final examinations) is strictly prohibited. This includes, but is not limited to: mobile phones, smart watches, smart glasses, hidden cameras and wireless earbuds.

Unless explicitly stated otherwise in advance by the instructor, the presence of any such device at a student's desk, on their person, or within reach during an assessment will be treated as a scholastic offence, **even if the device is not in use**.

Effective September 2026, the typical penalty for this offence is a failing grade in the course AND a 12-month prohibition on retaking the course.

Only devices expressly permitted by the instructor (e.g., non-programmable calculators) may be brought into the assessment room. It is their responsibility to review and comply with these expectations.

Use of Generative AI Tools

Unless otherwise stated, the use of generative AI tools (e.g., ChatGPT, Microsoft Copilot, Google Gemini, or similar platforms) is **not permitted** in the completion of any course assessments, including but not limited to: assignments, lab reports, presentations, tests, and final examinations.

Using such tools for content generation, code writing, problem solving, translation, or summarization—when not explicitly allowed—will be treated as a **scholastic offence**.

If the use of generative AI is permitted for a particular assessment, the conditions of use will be specified by the instructor in advance. If no such permission is granted, students must assume that use is prohibited. It is the student's responsibility to seek clarification before using any AI tools in academic work.

Use of Software for Assessments

All required papers may be subject to submission for textual, code, or visual similarity review to plagiarism detection software built into Kritik360. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the terms of use and privacy agreement for Kritik360 (<https://www.kritik.io/kritik360>).

Computer-marked multiple-choice tests and exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

13.5 Support Services

Academic Advising. Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, requests for relief, exam conflicts, and many other academic-related matters: <https://www.uwo.ca/sci/advising/>.

Mental Health Support. Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Gender-Based and Sexual Violence. Western is committed to reducing incidents of gender-based and sexual violence (GBSV) and providing compassionate support to anyone who has gone through these traumatic events. If a student has experienced GBSV (either recently or in the past), they can find information about support services for survivors, including emergency contacts, at:

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact [REDACTED].

Accessibility for Coursework. A student may contact the course instructor if they require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to them. If they have any questions regarding accommodations, they may also contact Accessible Education at http://academicsupport.uwo.ca/accessible_education/index.html

Learning Development and Success. Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) are ready to help students improve their learning skills. The facility offers strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Student Councils.

Student-run support services are offered by the University Students' Council (<https://westernusc.ca>) and the Science Students' Council (<https://www.westernssc.ca>).

This course is supported by the Science Student Donation Fund. Students registered in the Faculty of Science or the Schulich School of Medicine and Dentistry contribute a Science Student Donation Fee. This fee contributes to the Science Student Donation Fund, which is administered by the Science Students' Council (SSC). One or more grants from the Fund have allowed for the purchase of equipment integral to teaching this course. Students may opt out of the Fee by the end of September of each academic year by completing the online form linked from the Faculty of Science's Academic Advising site. For further information on the process of awarding grants from the Fund or how these grants have benefitted undergraduate education in this course, consult the Chair of the Department or email the Science Students' Council at [REDACTED].