

Calculus 1500A Course Outline

1. Course Information

Course Information

Calculus 1500A-001 Calculus I for the Mathematical Sciences, September-December 2026. In-person lectures XX.

List of Prerequisites

Ontario Secondary School MCV4U or Mathematics 0110A/B.

Unless students have either the prerequisites for this course or written special permission from the Department of Mathematics to enroll in it, they may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on their academic record. This decision may not be appealed.

2. Instructor Information

Instructors	Email	Office	Phone	Office Hours
Dr. Gord Sinnamon	sinnamon@uwo.ca	MC 103e	x86535	XXXXXXXXXX

Students must use their Western (@uwo.ca) email addresses when contacting their instructors.

Drop-in office hours will be held in-person in MC 103e, days and times may be changed in consultation with the class. To meet outside these times, email the instructor for an appointment. In the email, suggest a **definite day and time** for the meeting and preferred format: in person, Zoom, telephone or other (specify).

3. Course Syllabus, Schedule, Delivery Mode

Calculus for students intending to study Actuarial Science, Applied Mathematics, Astrophysics, Mathematics, Medical Physics, Physics, and Statistics. Basic set theory and an introduction to mathematical rigour. The precise definition of limit. Derivatives of transcendental functions. L'Hospital's rule. The definite integral. Fundamental theorem of Calculus. Integration by substitution. Applications.

Course-level learning outcomes

1. Use set notation to express mathematical concepts and find the supremum and infimum of a set of real numbers.

2. Compute the limits of functions at a point or at infinity using methods of algebra, limit laws, and related concepts.
3. Define the notions of limit and continuity and be able to determine if a given function is continuous using limits or other theorems.
4. Explain the role of limits in the definition of derivatives and integrals, and how the ideas of continuity, differentiability, and integrability are related to one another.
5. Compute derivatives and integrals of various algebraic, trigonometric, exponential, and logarithmic functions.
6. Deduce properties of the graph of a function from its derivatives and apply these concepts to solve optimization problems.
7. Define the notion of definite integral, state the Fundamental Theorem of Calculus and apply them to calculate integrals and compute areas between curves.

Lecture Dates and Delivery Mode

In-person lectures XX. These begin on September 9 and end on December 9. There will be no lectures on September 30 or from October 12-16.

Topics Covered (Dates are approximate)

Sep 9: Numbers, Sets
 Sept 14: Functions, Composition, Formulas, Inverse Functions, Review of exp-log-trig
 Sep 21: Trig Identities, Supremum
 Sept 28: Limits, limsup and liminf
 Oct 5: Limit laws, Limits at infinity, Continuity
 Oct 19: Derivatives, Chain rule, Logarithmic Differentiation, Derivative of inverse, Other rules
 Oct 26: Derivatives of exp-log-trig, Implicit Differentiation, Derivatives of specific inverses
 Nov 2: Mean Value Theorem, Higher derivatives, Velocity and acceleration
 Nov 9: Related rates, Optimization, Graphing
 Nov 16: l'Hospital's rule, Antiderivatives
 Nov 23: Definite integral, Fundamental Theorem of Calculus, Indefinite integral
 Nov 30: Substitution, Areas
 Dec 6: Volumes

Classes begin: September 9, 2026

Fall Reading Week: October 10 – 18, 2026

Classes end: December 9, 2026

Exam period: December 11 – 22, 2026

4. Course Materials

Costs of Textbooks and Other Learning Materials/Activities

No cost.

Textbook

CLP-1 Differential Calculus and CLP-2 Integral Calculus by Feldman, Rechnitzer, and Yeager.

Available free from <https://personal.math.ubc.ca/~CLP/>. The texts are available in both pdf and html. If page number references are used in the course, they will refer to the pdf files,

- https://personal.math.ubc.ca/~CLP/CLP1/clp_1_dc_text.pdf
- https://personal.math.ubc.ca/~CLP/CLP1/clp_1_dc_problems.pdf

- https://personal.math.ubc.ca/~CLP/CLP2/clp_2_ic_text.pdf
- https://personal.math.ubc.ca/~CLP/CLP2/clp_2_ic_problems.pdf

Supplementary Textbook (Optional)

OpenStax Calculus Volumes 1 and 2 by Herman and Strang. Available free from <https://openstax.org/subjects/math>

Other

Occasional additional course material will be provided free online via OWL.

OWL (Online Western Learning)

All course material will be posted to OWL Brightspace: <https://westernu.brightspace.com/>

Students are responsible for checking the course OWL Brightspace site regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class.

If students need assistance with the course OWL Brightspace site, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

5. Methods of Evaluation

Grading Scheme and Assessment Dates

The overall course grade will be calculated as listed below:

Handwritten Assignments (best 3 out of 5)	15%	Due Sep 28, Oct 19, Nov 2, Nov 16, Nov 30 in class
4 In-class Quizzes (best 2 out of 4)	28%	Oct 6, Oct 27, Nov 10, Nov 24 (Each 50 mins long.)
Final Exam	57%	To be scheduled by the registrar (Three hours.)

Tentative List of Topics

For the approximate range of topics covered on each in-class quiz, see the above list of topics. Detailed information for each quiz will be announced at least five days before the quiz.

Essential Learning Requirements

Not applicable.

Use of Generative AI Tools

Use by students is prohibited. Such tools will not be used in preparation of course materials or in assessment of student work.

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.

Midterms and Tests

This course has zero midterm test(s)/term test(s) 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 reweighing described above.

Assignments

This course has five assignments. Students are expected to complete three to receive full credit for this component. If they miss up to two of the five, they do not need to request Academic Consideration; the missing item(s) will not count against them, and their grade for this component will be calculated from their best three submissions.

If a student completes fewer than three of the total, the missing items will be recorded as a zero and included in their grade for this component. They are encouraged to submit all work, even if incomplete, since a partial mark is always better than a zero. If their final exam grade is higher than their grade on this component, their final exam grade will replace it.

Quizzes

This course has four quizzes. Students are expected to complete two to receive full credit for this component. If they miss up to two of the four, they do not need to request Academic Consideration; the missing item(s) will not count against them, and their grade for this component will be calculated from their best two submissions.

If a student completes fewer than two of the total, the missing items will be recorded as a zero and included in their grade for this component. They are encouraged to submit all work, even if incomplete, since a partial mark is always better than a zero. If their final exam grade is higher than their grade on this component, their final exam grade will replace it.

Deadlines: The 48-Hour No-Late-Penalty Period

All take-home assignments, quizzes, and labs with a stated due date include an automatic 48-hour period after the deadline during which students may still submit without a late penalty. For example, if an assignment is due on November 5, they may submit it until November 7 without penalty. After this 48-hour period, no further submissions will be accepted, and students do not need to request Academic

Consideration for a missed deadline; their grade for this component will be calculated as described above.

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.

6. Additional Statements

6.1 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).

Midterms and Tests: 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).

6.2 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.

6.3 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

6.4 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 similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. 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 licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

6.5 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 support@uwo.ca.

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>).