

Calculus 1500A Course Outline (Redacted - XXXXXXXXXXXXX)

1. Course Information

Course Information: Calculus 1500A-001 Calculus I for the Mathematical Sciences, September-December 2024.

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List of Prerequisites: Ontario Secondary School MCV4U or Mathematics 0110A/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

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

Students should use their Western (@uwo.ca) email address when contacting their instructors.

Drop-in office hours will be held in-person in MC 103e, days and times to be arranged in class. To meet outside these times, email the instructor for an appointment. In the email, suggest a **definite day and time** for the meeting.

3. Course Syllabus, Schedule, Delivery Mode

Description: An enriched version of Calculus 1000A/B. Basic set theory and an introduction to mathematical rigour. The precise definition of limit. Derivatives of exponential, logarithmic, rational trigonometric 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 limsup, liminf, 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.

Weekly Schedule (Timeline is approximate)

Sections refer to Text CLP-1, “A” stands for Appendix A, Sections in italics refer to Text CLP-2

Week of September 9: 0.1, 0.2, 0.3, Sets handout, 0.4, 0.5, 0.6, A12, A13

Week of September 16: A1–A9, A14, Supremum handout,

Week of September 23: 1.7, 1.8

Week of September 30: 1.4, 1.5, 1.6

Week of October 7: 2.1–2.6

Week of October 21: 2.7–2.13

Week of October 28: 2.14, 3.1, 3.2

Week of November 4: 3.5, 3.6, 3.7

Week of November 11: 4.1, *1.1*

Week of November 18: *1.2, 1.3*

Week of November 25: *1.4, 1.5*

Week of December 2: *1.6*

Key Sessional Dates

Sept. 5 Classes begin

Sept. 13 Last day to add a full-course or a first-term half course or drop a course without showing WDN

Sept. 30 National Day for Truth and Reconciliation (observed at Western). No classes.

Oct. 12-20 Fall Reading Week (including Thanksgiving, Oct. 14)

Dec. 2 Last day to withdraw from a first-term half course or full-year course without academic penalty (extended from Sat. Nov. 30)

Dec. 6 Last day of classes in the Fall term

Dec. 7-8 Study Days

Dec. 9–22 December examination period

4. Course Materials

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 several different forms. If page number references are used in the course, they will refer to the “combined” versions: https://personal.math.ubc.ca/~CLP/CLP1/combined_clp_1.pdf and https://personal.math.ubc.ca/~CLP/CLP2/combined_clp_2.pdf

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

Other: Occasional additional course material will be provided online via OWL (Brightspace).

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

Students are responsible for checking the course OWL site (<https://westernu.brightspace.com/>) 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 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:

Written Assignments (5)	20%	XXXXXXXXXXXXXXXXXXXXXXXXXX
In-Class Quizzes (4)	36%	XXXXXXXXXXXXXXXXXXXXXXXXXX
Final Exam	44%	To be scheduled by the registrar

To request a one-week extension of the due date for an assignment, contact the instructor before the original deadline. This is not an academic consideration.

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

General 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://www.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.

All Academic Consideration requests must include supporting documentation; however, recognizing that formal documentation may not be available in some extenuating circumstances, the policy allows students to make one Academic Consideration request **without supporting documentation** in this

course. However, the following assessments are excluded from this, and therefore always require formal supporting documentation:

- Examinations scheduled during official examination periods (Defined by policy)

When a student *mistakenly* submits their one allowed Academic Consideration request **without supporting documentation** for the assessments listed above or those in the **Coursework with Assessment Flexibility** section below, the request cannot be recalled and reapplied. This privilege is forfeited.

Evaluation Scheme for Missed Assessments

In the absence of academic consideration, all assignments or quizzes missed will receive a mark of zero. Even with academic consideration, assignment submissions more than one week beyond the original due date will not be accepted or graded. (To request a one-week extension of the due date for an assignment, contact the instructor before the original deadline. This is not an academic consideration.)

If academic consideration for one or two missed assignments is granted, your mark for those assignments will be replaced by the average mark on your other assignments. If academic consideration for more than two missed assignments is granted, each other assignment will count for 6% and the excess assignment mark will be assigned to the final examination. There will be no makeups for missed assignments.

Number of Assignments Missed	0	1	2	3	4	5
Weight[%] of each Assignment Submitted	4	5	6	6	6	6
Weight[%] Transferred to Final Exam	0	0	2	8	14	20

If academic consideration for one quiz is granted, the mark for that quiz will be replaced by the average mark on your other quizzes. If academic consideration for more than one missed quiz is granted, each other quiz will count for 15% and the excess quiz mark will be assigned to the final exam. There will be no makeups for missed quizzes.

Number of Quizzes Missed	0	1	2	3	4
Weight[%] of each Quiz Written	9	12	15	15	15
Weight[%] Transferred to Final Exam	0	0	6	21	36

When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name given by the University to a makeup Final Exam). See the Academic Calendar for details (under [Special Examinations](#)), especially for those who miss multiple final exams within one examination period.

6. Additional Statements

Religious Accommodation

When conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible but not later than two weeks prior to the writing or the examination (or one week prior to the writing of the test).

Please visit the Diversity Calendars posted on our university's EDID website for the recognized religious holidays:

<https://www.edi.uwo.ca>.

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.

Academic Policies

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

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 e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner.

No aids will be permitted on quizzes or on the final examination.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

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

Support Services

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

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.

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 sexual or gender-based violence (either recently or in the past), you will 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.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at

http://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on 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.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: <https://www.uwo.ca/se/digital/>.

Additional student-run support services are offered by the USC, <https://westernusc.ca/services/>.