



COURSE OUTLINE

1. **Course:** MATH 249, Introductory Calculus - Fall 2022

Coordinator(s)

Name	Email	Phone	Office	Hours
Dr Jerrod Smith	jerrod.smith@ucalgary.ca	403 220-6766	MS 442	Please see D2L.

Section(s)

Lecture 01 : MTWF 08:00 - 08:50 in MFH 162

Instructor	Email	Phone	Office	Hours
Dr Jerrod Smith	jerrod.smith@ucalgary.ca	403 220-6766	MS 442	Please see D2L.

Lecture 02 : MWRF 16:00 - 16:50 in ENG 60

Instructor	Email	Phone	Office	Hours

Lecture 03 : M 15:00 - 15:50 in ENG 60 and TR 15:30 - 16:45 in KNB 132

Instructor	Email	Phone	Office	Hours

Lecture 04 : MTRF 17:00 - 17:50 in SB 103

Instructor	Email	Phone	Office	Hours

To account for any necessary transition to remote learning for the current semester, courses with in-person lectures, labs, or tutorials may be shifted to remote delivery for a certain period of time. In addition, adjustments may be made to the modality and format of assessments and deadlines, as well as to other course components and/or requirements, so that all coursework tasks are in line with the necessary and evolving health precautions for all involved (students and staff).

In Person Delivery Details:

- **Classes** (lectures) are in-person.
- **Exams** (midterms and final) are in-person.
- **Labs** are online and asynchronous.

Supplementary online content (videos)

The supplementary content videos posted to D2L cover fundamental concepts and only basic examples. While these videos are not a replacement for attending classes, we encourage you to make use of them to reinforce key ideas.

If you are not feeling well, or you have any symptoms of respiratory illness, we encourage you to stay home and watch the content videos for the topics you miss in class. Once you are well, you can visit the Math Help Centre (see D2L), and talk to your instructor, for additional support.

Note: To succeed in this course, students must engage with the **Dino Problem worksheets** posted on D2L (these are test-level questions). Occasionally, Lab Tasks will be based on these problems, and some problems will be discussed in class. Solutions will be provided one week (typically) after the worksheet is posted to provide sufficient opportunity to engage with the problems.

Re-Entry Protocol for Labs and Classrooms:

To limit the spread of COVID-19 on campus, the University of Calgary has implemented safety measures to ensure the campus is a safe and welcoming space for students, faculty and staff. The most current safety information for campus can be found [here](#). **Online Delivery Details:**

This course is being offered online in real-time via scheduled meeting times, you are required to be online at the same time.

To help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or

published without the instructor's permission.

Labs are online and asynchronous

Labs will consist of weekly online exercises that we call **Lab Tasks**. Lab Tasks will be due at 11:59 PM on Fridays, and students can miss up to two Lab Tasks throughout the semester (the lowest two Lab Task grades will be dropped).

Lab Tasks may consist of an online Quiz, completing a Discussion Board post, and/or other online activities.

Information about specific tasks will be posted to D2L on a weekly basis.

Course Site:

D2L: MATH 249 L01 - L04 (Fall 2022) - Introductory Calculus

Note: Students must use their U of C account for all course correspondence.

Email policy

All questions of a personal nature (e.g. accommodations, missed assessments) should be directed to your course coordinator (jerrod.smith@ucalgary.ca). You can usually expect a response within 48 hours (except on weekends and holidays).

Questions about math

Questions about mathematics are best answered during **Class, Office Hours**, or at the **Math Help Centre (MS 457)**.

- See D2L for **Math Help Centre (MS 457)** information and a schedule.

Frequently Asked Questions (FAQ)

Questions about the course organization should be posted to the **Frequently Asked Questions (FAQ)** discussion board on D2L.

Emails that contain questions about mathematics and/or questions about the course organization will not receive a response. Please post these types of questions to the appropriate D2L discussion boards.

Equity Diversity & Inclusion:

The University of Calgary is committed to creating an equitable, diverse and inclusive campus, and condemns harm and discrimination of any form. We value all persons regardless of their race, gender, ethnicity, age, LGBTQIA2S+ identity and expression, disability, religion, spirituality, and socioeconomic status. The Faculty of Science strives to extend these values in every aspect of our courses, research, and teachings to better promote academic excellence and foster belonging for all.

Course Outcomes:

- use the language and notion of differential calculus, and apply the key concepts to compute derivatives of functions of a real variable.
- explore the relationship between key calculus concepts and their geometric representation, and seek to apply calculus techniques to a wide variety of practical problems
- recognize that not only the technology can be used to achieve some desired results; but also it has limitations.
- Mathematical Literacy This includes the fluent reading, manipulation, and graphic interpretation of algebraic expressions and functions
- The concept of Limit Students will gain an intuition of the concept of limit, and acquire a basic level of mathematical literacy on limits and their computations
- The concept of Derivative Students will be to associate the concept of differentiation with rates of change, and they will be able to compute and manipulate derivatives
- Applications of Derivatives Students will be able to analyze the shape of functions through their derivatives. Students will use derivatives to solve a variety of applied problems, including optimization problems.
- The Riemann Integral Students will explore the process of estimating areas under a curve, develop the notion of integral, and compute basic integrals. Students will be able to demonstrate the fundamental relations

between the processes of integration and differentiation.

2. Requisites:

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

Prerequisite(s):

Mathematics 30-1 or Mathematics 2 (offered by Continuing Education).

Antirequisite(s):

Not open to students with 50 per cent or higher in Mathematics 31 or a grade of "C" or higher in Mathematics 3 offered through University of Calgary Continuing Education, except with special departmental permission. Credit for Mathematics 249 and either 265 or 275 will not be allowed.

3. Grading:

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar.

In determining the overall grade in the course the following weights will be used:

Course Component	Weight	Due Date (duration for exams)	Modality for exams	Location for exams
WeBWork Assignments (5; online homework) ¹	15%	Ongoing		
Lab Tasks (best 8 out of 10) ²	20%	Ongoing		
Midterm Exam #1 ³	20%	Oct 13 2022 at 06:30 pm (2 Hours)	in-person	TBD
Midterm Exam #2 ⁴	20%	Nov 17 2022 at 06:30 pm (2 Hours)	in-person	TBD
Registrar Scheduled Final Exam	25%	Will be available when the final exam schedule is released by the Registrar	in person	Will be available when the final exam schedule is released by the Registrar

¹ Tuesdays: September 27, October 11, October 25, November 15, and Wednesday, December 7 at 11:59 PM

² Fridays: Sept. 23, 30, Oct. 7, 14, 21, 28, Nov. 4, 18, 25, and Dec. 2 (due at 11:59 PM). Lab Tasks will typically be available for completion up to one week after the due date; there will be no grade penalty for late completion up to the end of the availability period indicated on D2L.

³ See Section 5 for Out-of-Class Activity information.

⁴ See Section 5 for Out-of-Class Activity information.

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum % Required	95 %	90 %	85 %	80%	76%	72 %	68 %	64%	60%	55 %	50 %

This course will have a Registrar Scheduled Final exam that will be delivered in-person and on campus. [The Final Examination Schedule](#) will be published by the Registrar's Office approximately one month after the start of the term. The final exam for this course will be designed to be completed within 2 hours.

The University of Calgary offers a [flexible grade option](#), Credit Granted (CG) to support student's breadth of learning and student wellness. Faculty units may have additional requirements or restrictions for the use of the CG grade at the faculty, degree or program level. To see the full list of Faculty of Science courses where CG is not eligible, please visit the following website: <https://science.ucalgary.ca/current-students/undergraduate/program-advising/flexible-grading-option-cg-grade>

4. Missed Components Of Term Work:

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, one possible arrangement is that the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course. This option is

at the discretion of the coordinator and may not be a viable option based on the design of this course.

If you miss a WeBWork Assignment deadline...

- **No extensions will be granted** barring exceptional circumstances (see below: (*)).
- It is your responsibility to keep up with the WeBWork Assignment deadlines.
- Do not leave your WeBWork to the last day -- complete it early!
- (*) If exceptional circumstances (e.g., extended illness, emergency, etc.) arise: contact your coordinator by email within 48 hours of the assignment deadline. Accommodations in exceptional circumstances will be made on a case-by-case basis.

If you miss a Lab Task ...

- That is okay! You can miss up to two (2) lab tasks throughout the semester without penalty.
- The two lowest Lab Task grades will be dropped, so if you miss up to (2) Lab Tasks then these are the scores that we will drop.
- Lab Tasks will typically be available for completion up to one week after the due date; there will be no grade penalty for late completion up to the end of the availability period indicated on D2L.
- (***) If exceptional circumstances (e.g., extended illness, emergency, etc.) arise **and you have missed three (3) Lab Tasks as a result**: contact your coordinator by email within 48 hours of the assignment deadline. Accommodations in exceptional circumstances will be made on a case-by-case basis.

If you miss a Midterm Exam ...

- There are **no make-up exams** barring exceptional circumstances (see below: (***)).
- (***) In exceptional circumstances (e.g., extended illness, emergency, etc.): contact your coordinator by email within 48 hours of the examination. Accommodations in exceptional circumstances will be made on a case-by-case basis. If a make-up midterm exam is to be held for students in exceptional circumstances, it will take place one week after the regularly scheduled exam.

5. Scheduled Out-of-Class Activities:

The following out of class activities are scheduled for this course.

Activity	Location	Date and Time	Duration
Midterm - 1	On-Campus, room to be announced	Thursday, October 13, 2022 at 6:30 pm	2 Hours
Midterm - 2	On-Campus, room to be announced	Thursday, November 17, 2022 at 6:30 pm	2 Hours

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a conflict with the out-of-class-time-activity, please contact your course coordinator/instructor no later than **14 days prior** to the date of the out-of-class activity so that alternative arrangements may be made.

6. Course Materials:

Recommended Textbook(s):

Joel Feldman, Andrew Rechnitzer, Elyse Yeager, *CLP Calculus Textbooks: CLP-I Differential Calculus and CLP-II Integral Calculus*.: Open access eBook <http://www.math.ubc.ca/~CLP>.

Gilbert Strang, Edwin Herman, et al., *Calculus Volume 1*: OpenStax (open access eBook); Available at: <https://openstax.org/books/calculus-volume-1/> .

Matthew Boelkins, *Active Calculus*: Open access eBook; available at: <https://activecalculus.org/single/>.

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

7. Examination Policy:

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional code of conduct and promote academic integrity in upholding the University of Calgary's reputation of excellence.

Academic Integrity is important to all members of the University of Calgary community!

See section 12 (d) below for more information.

Midterm and Final Exams

Students will be provided with a Formula Sheet for all exams (see Exam Information pages on D2L).

No additional aids are allowed on tests or examinations.

All exams will be completed individually (on your own, and without help from your peers).

There are no electronic devices of any kind permitted in the examination rooms for the midterms and the final examination. This includes, but is not limited to, calculators, phones, smart watches, tablets, laptops, headphones and any bluetooth-enabled device. Failure to comply with this regulation will result in the rejection of the examination paper.

WebWork Homework and Lab Tasks

Here are our expectations for how you should approach Academic Integrity on WebWork Assignments and Lab Tasks.

In particular, we want to make very clear when aids (notes, videos, internet resources etc.) are allowed and when they are not!

WebWork Homework Expectations

- WebWork is intended to **help you practice** fundamental (basic) computational and theoretical problems
- You should discuss WebWork Assignments with your peers
 - Use the WebWork Homework Discussion Boards
- **You may NOT use:** homework answer services, like Chegg, Slader, etc.
- We recommend that you do NOT use: (online) computer algebra systems like Wolfram Alpha, Mathematica, etc. **on your first attempts**; the point is to assess your skills, and NOT to assess Wolfram Alpha (etc.). These tools can be useful for checking your work on subsequent attempts and for investigating more complicated problems (like the **Dino Problems**, or applications problems).
- Students will typically be provided with **6 attempts** for each WebWork problem. **Additional attempts will not be provided.**

Weekly Lab Task Expectations

Lab Tasks are intended to **help you assess your understanding** of fundamental concepts and basic examples.

- You should complete Lab Tasks on your own, and without help from your peers.**
 - ** Sometimes you may be asked to work together with your peers **onpart of** a Lab Task (e.g., giving peer-feedback)
- You may re-watch the topic videos as you complete the Lab Task
- You may refer to the notes you've taken, course slides, or the course textbook
- **You may NOT use:** homework answer services, like Chegg, Slader, etc.
- We recommend that you do NOT use: (online) computer algebra systems like Wolfram Alpha, Mathematica, etc.; the point is to assess your understanding, and NOT to assess Wolfram Alpha (etc.).
- Students will typically be provided with **2 attempts** for each D2L Quiz based Lab Task. **Additional attempts will not be provided.**

Students should also read the Calendar, [Section G](#), on Examinations.

8. Approved Mandatory And Optional Course Supplemental Fees:

There are no mandatory or optional course supplemental fees for this course.

9. Writing Across The Curriculum Statement:

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section [E.2](#) of the University Calendar.

10. Human Studies Statement:

Students will not participate as subjects or researchers in human studies.

See also [Section E.5](#) of the University Calendar.

11. Reappraisal Of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work [form](#) to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections [I.1](#) and [I.2](#) of the University Calendar
- b. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

12. Other Important Information For Students:

- a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).
- b. **SU Wellness Services:** For more information, see their [website](#) or call [403-210-9355](#).
- c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (syasa@ucalgary.ca) or phone at [403-220-2208](#). The complete University of Calgary policy on sexual violence can be viewed [here](#).
- d. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)
[Student Academic Misconduct Policy](#) and [Procedure](#)
[Faculty of Science Academic Misconduct Process](#)
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

e. Academic Accommodation Policy:

It is the student's responsibility to request academic accommodations according to the University policies

and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Academic Accommodation Form](#) and sending it to Mark Bauer by email bauerm@ucalgary.ca preferably 10 business days before the due date of an assessment or scheduled absence.

- f. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- g. **Student Union Information:** [SU contact](#), Email SU Science Rep: sciencerep1@su.ucalgary.ca, [Student Ombudsman](#)
- h. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.
- i. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

Electronically Approved - Sep 01 2022 15:18

Department Approval

Electronically Approved - Sep 01 2022 22:27

Associate Dean's Approval