



COURSE OUTLINE

1. **Course:** MATH 249, Introductory Calculus - Fall 2020

Lecture 01: MTWF 08:00 - 08:50 - Online

Instructor	Email	Phone	Office	Hours
Dr Jerrod Smith	jerrod.smith@ucalgary.ca		MS 442	By appointment (via Zoom)

Lecture 02: MWRF 16:00 - 16:50 - Online

Instructor	Email	Phone	Office	Hours
Claudia Mahler	claudia.mahler@ucalgary.ca	403 220-7717	MS 376	By appointment (via Zoom)

Lecture 03: M 15:00 - 15:50 - Online and TR 15:30 - 16:45 - Online

Instructor	Email	Phone	Office	Hours
Dr Jerrod Smith	jerrod.smith@ucalgary.ca		MS 442	By appointment (via Zoom)

Lecture 04: MTRF 17:00 - 17:50 - Online

Instructor	Email	Phone	Office	Hours
Claudia Mahler	claudia.mahler@ucalgary.ca	403 220-7717	MS 376	By appointment (via Zoom)

Coordinator(s)

Name	Email	Phone	Office	Hours
Dr Jerrod Smith	jerrod.smith@ucalgary.ca		MS 442	By appointment (via Zoom)

Online Delivery Details:

Some aspects of this course are being offered in real-time via scheduled meeting times. For those aspects you are required to be online at the same time.

Live Sessions:

Each section will have two live 50-minute sessions per week with course instructors on Zoom:

- Drop-in Question & Answer,
- Problem-Solving.

Participation in Problem-Solving sessions is highly recommended to ensure your success in the course!

The Drop-in Q&A sessions will **not be recorded**.

Please see the **Course Schedule** on D2L (Content > Course Information) for a detailed live class schedule and information about how to access Zoom.

For MATH 249 L01 only:

- The Problem-Solving Sessions will be recorded.
 - Recordings will be saved on Zoom's Cloud Recording servers.
- Only the "active speaker" video will be recorded along with the shared screen.
 - By default, student video will be turned off and microphones muted. However, students will be encouraged to unmute their microphones and to participate in the discussions should they wish to do so.
 - Participant names will not be displayed in the recording.
 - Chat messages will not be saved.
- The recordings will be made available to all course sections via D2L. Available at: Communication > Zoom > Cloud Recordings

Students in MATH249 L01 that do not wish to be recorded, may attend any other 249/265 Problem-Solving Session and/or choose to watch the recordings of the L01 sessions.

Course Structure:

The majority of the course content will be delivered via pre-recorded video lectures. During each week, students will watch the videos at their own pace following the schedule of topics below. Each video set has a corresponding Video Quiz designed to assess basic understanding of the video content.

You should pause the videos and take notes as you would during an in-person class. Fill-in-the-blank (Early) slides will be posted in advance. We encourage you to download these slides and fill-in-the-blanks as you watch the videos. After watching the videos, you should work on the Practice Problems and complete the more challenging Dino Problems.

Live meetings will give you an opportunity to ask questions, discuss material with your instructor and peers, and to engage with more challenging (test-level) practice problems.

Note: The pre-recorded videos cover fundamental concepts and only basic examples. **To succeed in this course, students must engage with the “Dino Problems” (test-level questions) and Problem-Solving Session material.**

Suggested Schedule for a Typical Week:

Monday:

- Complete Multiple Choice or Written Problem Test on past material
- Watch current week's Video Content & work on Practice Problems

Tuesday/Wednesday:

- Watch current week's Video Content & work on Practice Problems
- Attend Drop-in Q & A meeting
- Complete weekly Video Quiz

Thursday/Friday:

- Work on current week's Dino Problems & attend Problem-Solving Session
- Work on WeBWork assignment

Email Policy:

- All **content** and **course-related** questions should be posted to the **D2L Discussion Boards**. Questions will normally be answered within 24 hours (except on weekends and holidays). Do not expect a response if you email your instructor with a content or course-related question.
- 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 24 hours (except on weekends and holidays).

Course Site:

D2L: MATH 249/265 - ALL - (Fall 2020) - Introductory Calculus

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

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:

Component(s)	Weighting %	Date
WeBWorK Assignments	10	Sept. 28th, Oct. 12th, Oct. 26th, Nov. 16th, Dec. 7th
Video Quizzes (best 10 of 12)*	30	Every Wednesday (from Sept. 9th to Dec. 2nd).
Multiple Choice Tests (Best 4 of 5)**	40	Oct 5th, Oct. 19th, Nov. 2nd, Nov. 23rd, Dec. 7th
Written Problem Tests (Best 3 of 4)***	20	Sept. 28th, Oct. 13th, Oct. 26th, Nov. 16th,

* Video Quizzes will not be timed. They should take approximately 10-15 minutes to complete. If a student misses a quiz, that will be the one automatically dropped as being the lowest.

**Multiple Choice Tests are designed to take 50 minutes, but 75 minutes will be given to account for any issues. These tests must be completed between 8am Monday and 12pm Tuesday. Once you open the test your 75 minute timer will begin. Additional time will be granted to students with approved accommodations. If a student misses a test, that will be the one automatically dropped as being the lowest.

*** Written Problem Tests will not be timed. The Sept. 28th, Oct. 26th and Nov. 16th tests will open at 8am and must be handed in by 12pm the following day. The Oct. 13th test opens at 11am and must be handed in by 5pm the following day. If a student misses a test, that will be the one automatically dropped as being the lowest.

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 %

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, then the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course.

- o If you miss a **WeBWork Assignment** deadline.
 - **No extensions will be granted.**
 - 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 deadline.*
- o If you miss a **Video Quiz**
 - If you have missed **one** or **two** Video Quizzes: **do nothing** -- these are the two quizzes we will drop.
 - *If you miss **three** (or more) Video Quizzes: contact your coordinator by email within 48 hours of the deadline.*
- o If you miss a **Multiple Choice Test**
 - If you have missed **one** MC Test: **do nothing** -- this is the test that we will drop.
 - *If you miss **two** (or more) MC Tests: contact your coordinator by email within 48 hours of the deadline.*
- o If you miss a **Written Problem Test**
 - If you have missed **one** WP Test: **do nothing** -- this is the test that we will drop.
 - *If you miss **two** (or more) WP Tests: contact your coordinator by email within 48 hours of the deadline.*

5. Scheduled Out-of-Class Activities:

There are no scheduled out of class activities for this course.

6. Course Materials:

Required 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..>

Technology Requirements:

In addition, students **must** be able to **scan/photograph** written work and convert the images to **PDF files**.

- For iPhone / iPad try the *free* Adobe Scan Digital PDF Scanner <https://tinyurl.com/tlhhkj3>
- On Google Play try the *free* Adobe Scan Digital PDF Scanner <https://tinyurl.com/v7csw88>

Alternative to scanning; students may create PDF files of written work by:

- writing with **tablet app** and saving to a **PDF file**

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:

On D2L (Content > Course Information) please see **Expectations on Assessments and Academic Integrity** for important information about **when aids** (notes, videos, internet resources, etc.) **are allowed** and when they **are not allowed**.

Here are our expectations for how you should complete assessments (WeBWork, Quizzes and Tests). In particular, we want to make very clear **when aids** (notes, videos, internet resources etc.) **are allowed** and **when they are not!**

Academic Integrity is important to all members of the University of Calgary community. See below for why!

◦ **WeBWork Homework Expectations**

- WeBWork is intended to help you **practice** fundamental (basic) computational and theoretical problems
- You should **discuss WeBWork with your peers**: [WeBWork Homework Discussion Boards](#)
- **You may NOT use**: homework answer services, like [Chegg.com](#), [Slader](#), etc.
- We **recommend** that **you do NOT** use: (online) computer algebra systems like *Wolfram Alpha*, *Mathematica*, etc.; the point is to assess your skills, and NOT to assess Wolfram Alpha (etc.).

◦ **Weekly Video Quiz Expectations**

- These quizzes are intended to help you assess your understanding of fundamental concepts and basic examples.
- You should **complete quizzes on your own**, and **without help from your peers**
- **You may re-watch** the **topic videos** as you complete the quiz
- **You may** refer to the **notes you've taken** on the **fill-in-the-blank slides**
- **You may NOT use**: homework answer services, like [Chegg.com](#), [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.).

◦ **Multiple Choice (MC) Tests Expectations**

- You should **complete MC Tests on your own**, and **without help from your peers**
- **You may** use a **scientific calculator**, if you find it helpful
- **You may** refer to the **notes you've taken** on the **fill-in-the-blank slides**
- **You may NOT use**: homework answer services, like [Chegg.com](#), [Slader](#), etc.
- We **recommend** that you **do NOT** re-watch videos as the **MC Tests** are **timed exams**.
- 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.).

◦ **Written Problem (WP) Tests Expectations**

- We **recommend** that you **complete WP Tests on your own**, and **without help from your peers**. The point is to assess **your** problem solving and mathematical communication skills.
 - **IMPORTANT: If you choose to collaborate with your peers on a WP Test problem, then you, and each of your collaborators, must list all of the names of those you worked with Failure to do so may result in Academic Misconduct allegations related to plagiarism.** See below for consequences.
- **You may** use a **scientific calculator**, if you find it helpful.
- **You may** use (online) computer algebra systems and/or graphical calculators as you explore the problem.
- **You may re-watch** the **topic videos** as you complete the quiz
- **You may** refer to the **notes you've taken** on the **fill-in-the-blank slides**
- **You may NOT use**: homework answer services, like [Chegg.com](#), [Slader](#), etc.

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 Center:** For more information, see www.ucalgary.ca/wellnesscentre or call [403-210-9355](tel: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 (svsa@ucalgary.ca) or phone at [403-220-2208](tel:403-220-2208). The complete University of Calgary policy on sexual violence can be viewed at (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>)
- d. **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/ fabrication of experimental values in a report. **These are only examples.**
- e. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head of the Department of Mathematics & Statistics, Mark Bauer by email bauerm@ucalgary.ca or phone [403-220-4189](tel:403-220-4189). Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.

- f. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPPA). 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:** [VP Academic](#), Phone: [403-220-3911](#) Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: [403-220-3913](#) Email: sciencerep@su.ucalgary.ca. [Student Ombudsman](#), Email: ombuds@ucalgary.ca.
- 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.

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.

Electronically Approved - Sep 03 2020 09:38

Department Approval

Electronically Approved - Sep 03 2020 19:27

Associate Dean's Approval