



UNIVERSITY OF CALGARY  
 FACULTY OF SCIENCE  
 DEPARTMENT OF MATHEMATICS & STATISTICS  
 COURSE OUTLINE

1. **Course:** MATH 249, Introductory Calculus -- Winter 2018

*Lecture 01:* (MTWF, 13:00-13:50 in ENA201)

Instructor Name	Email	Phone	Office	Hours
Mark Bauer	bauerm@ucalgary.ca	(403) 210-8456	MS 558	TBA
<i>Lecture 02:</i> (TWRf, 16:00-16:50 in ENA103)				
Jinniao Qiu	jinniao.qiu@ucalgary.ca	(403) 210-8474	MS 580	TBA

*Course Site:*

D2L: MATH 249 ALL-(Winter 2018)-Introductory Calculus

Department of Mathematics & Statistics: MS 476, 403 220-5210,

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

2. **Prerequisites:**

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

A grade of 70 per cent or higher in Mathematics 30-1 or Pure Mathematics 30. (Alternatives are presented in C.1 Mathematics Diagnostic Test in the Academic Regulations section of the online Calendar).  
 Not open to students with 60 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 any one of Mathematics 251, 265, 275, 281, or Applied Mathematics 217 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 %
Online Diagnostic Test	2%
Online Homework (6)	12%
Online Quizzes (3)	6 %
Midterm Test (2)	40% (Out of Class: Friday Feb. 16 6pm & Friday March 23 6pm)
Final Exam	40%

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;

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
<b>Minimum Percent Required</b>	95	88	84	80	76	72	68	64	60	50	50

Bear in mind that a grade of D+ or below will result if you fail both midterms or the final exam. i.e., A passing grade on at least one midterm and on the final exam is required to receive an overall grade of C- or better in the course. This is to ensure that those students who receive a C- or better have a reasonable chance of succeeding in courses that require this course as a prerequisite.

#### 4. **Missed Components of Term Work:**

The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.3](#) of the University Calendar

#### 5. **Scheduled out-of-class activities:**

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

MATH 249 Midterm 1, scheduled for 90 min on Friday February 16 2018 at 6:00 pm ST 140, ST 148

MATH 249 Midterm 2, scheduled for 90 min on Friday March 23 2018 at 6:00 pm ST 140, ST 148

#### **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:**

**Required text.** Open access eBook: Guichard, Calculus Early Transcendentals. Available for free from <http://lyryx.com/>. Students will be given Lyryx login information through the Desire2Learn system

**Optional text for additional problems:** Anton, Bivens and Davis, Calculus: Early Transcendentals (eBook with or without Student Solutions Manual), Wiley sold in the University bookstore.

#### 7. **Examination Policy:**

No aids are allowed on tests or examinations

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 those reports. See also [Section E.2](#) of the University Calendar.

#### 10. **Human studies statement:**

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

#### 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.

1. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **15 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 immediately submit the Reappraisal of Graded Term work form to the department in which the course is offered. The department will arrange for a re-assessment of the work if, and only if, the student has sufficient academic grounds. See sections [I.1](#) and [I.2](#) of the University Calendar

2. **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. **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.**

- b. **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- c. **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-accomodations-for-students-with-disabilities\\_0.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, Jim Stallard by email [jbstall@ucalgary.ca](mailto:jbstall@ucalgary.ca) or phone 403-220-3953. 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: <http://www.ucalgary.ca/pubs/calendar/current/e-4.html>

- d. **Safewalk:** Campus Security will escort individuals day or night ([www.ucalgary.ca/security/safewalk/](http://www.ucalgary.ca/security/safewalk/)). Call [403-220-5333](tel:403-220-5333) for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- e. **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 also [www.ucalgary.ca/legalservices/foip](http://www.ucalgary.ca/legalservices/foip).
- f. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca). SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca). Student Ombudsman, Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca).
- g. **Internet and Electronic Device Information:** Unless instructed otherwise, cell phones should be turned off during class. All communication with other individuals via laptop, tablet, smart phone or other device is prohibited during class unless specifically permitted by the instructor. Students that violate this policy may be asked to leave the classroom. Repeated violations may result in a charge of misconduct.
- 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. **SU Wellness Center:** The Students Union Wellness Centre provides health and wellness support for students including information and counselling on physical health, mental health and nutrition. For more information, see [www.ucalgary.ca/wellnesscentre](http://www.ucalgary.ca/wellnesscentre) or call [403-210-9355](tel:403-210-9355).

**Department Approval:**

Electronically Approved

**Date:** 2017-12-22 11:14

**Associate Dean's Approval for out of regular class-time activity:**

Electronically Approved

**Date:** 2017-12-22 12:47

## Course Outcomes

1. use the language and notion of differential calculus, and apply the key concepts to compute derivatives of functions of a real variable.
2. explore the relationship between key calculus concepts and their geometric representation, and seek to apply calculus techniques to a wide variety of practical problems
3. recognize that not only the technology can be used to achieve some desired results; but also it has limitations.
4. Mathematical Literacy This includes the fluent reading, manipulation, and graphic interpretation of algebraic expressions and functions
5. 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
6. 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
7. 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.
8. 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.