

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

#### 1. Course: MATH 265, University Calculus I -- Fall 2018

Instructor Name	Email	Phone	Office	Hours
L01: ( MWF 15:00 - Kristine Bauer L02: ( MWF 10:00 -	bauerk@ucalgary.ca	220-7675	MS 578	ТВА
Mark Bauer	bauerm@ucalgary.ca	4032108456	MS 558	W 11:00-11:50, R 11:30-12:30, and by appointment
·	- 09:50 in ENE 241) TBA - 11:50 in ENA 103)	ТВА	ТВА	TBA
Lauren DeDieu	lauren.dedieu@ucalgary.ca	403-220-5056	MS 528	Tues. 10-11am, Wed. 1:30-2:30pm, Thurs. 2-3pm
L05: (TR 11:00 - 1 Wenning Wei Coordinator(s):	2:15 in ENG 60) wenning.wei@ucalgary.ca	4032206326	MS378	MW 14:00-15:00
Mark Bauer	bauerm@ucalgary.ca	4032108456	MS 558	W 11:00-11:50, R 11:30-12:30, and by appointment

#### **Course Site:**

D2L: MATH 265 L01 - L05 (Fall 2018)-University Calculus I

## **Department of Mathematics & Statistics:**

Office: MS 476

Phone: 403 220-5210 Email: mathinfo@ucalgary.ca

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)**: A grade of 70 per cent or higher in Mathematics 30-1; and a grade of 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. (Alternatives to Mathematics 30-1 are presented in C. Mathematics Competency Equivalents in the Academic Regulations section of the online Calendar).

Antirequisite(s): Credit for Mathematics 265 and either 249 or 275 will not be allowed.

**Notes:** This course provides the basic techniques of differential calculus as motivated by various applications. Students performing sufficiently well in a placement test may be advised to transfer directly to Mathematics 267.

# 3. Grading:

The University policy on grading and related matters is described in <u>F.1</u> and <u>F.2</u> of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Component(s)	
Online	10%

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Component(s)	6 %					
Midterm Test (2)	44% (Out of Class: Friday Oct. 12 6pm & Friday Nov. 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.

	A+	Α	A-	B+	В	B-	C+	С	C-	D+	D
Minimum % Required	95 %	88 %	84 %	80%	76%	72 %	68 %	64%	60%	55 %	50 %

This course has a registrar scheduled final exam.

If the student fails both midterms, then their maximum course grade is a D+.

If the student fails the final examination, then their maximum course grade is a D+.

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/themself 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.

Activity	Location	Date and Time	Duration
Midterm	ST 135, ICT 102, KNB 132, ES 162, SB 103, EDC 179, ENA 201, ST 140, ST	Friday, October 12, 2018 at 6:00	90
1	148, ENG 60	pm	Minutes
Midterm	ST 135, ICT 102, KNB 132, ES 162, SB 103, EDC 179, ENA 201, ST 140, ST	Friday, November 23, 2018 at	90
2	148, ENG 60	6:00 pm	Minutes

**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: CLP Calculus Textbooks: CLP-I Differential Calculus and CLP-II Integral Calculus, http://www.math.ubc.ca/~CLP/

**Optional text for additional problems**: Calculus: Single and Multivariable; Hughes-Hallet et al., Wiley.

# 7. Examination Policy:

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, 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.

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

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### 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  $\underline{\text{E.2}}$  of the University Calendar.

#### 10. Human studies statement:

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

See also <u>Section E.5</u> 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 1.3 of the University Calendar.

- 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 reassessment of the work if, and only if, the student has sufficient academic grounds. See sections <a href="L1">L1</a> and <a href="L2">L2</a> of the University Calendar
- 2. **Final Exam:**The student shall submit the request to Enrolment Services. See <u>Section I.3</u> 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:** 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 <a href="https://www.ucalgary.ca/wellnesscentre">www.ucalgary.ca/wellnesscentre</a> or call 403-210-9355.
- c. **Sexual Violence:** The University of Calgary is committed to fostering a safe, productive learning environment. The Sexual Violence Policy (https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf) is a fundamental element in creating and sustaining a safer campus environment for all community members. We understand that sexual violence can undermine students' academic success and we encourage students who have experienced some form of sexual misconduct to talk to someone about their experience, so they can get the support they need. 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 (sysa@ucalgary.ca) or phone at 403-220-2208.
- 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 <u>Section K</u>. 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. **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on <u>assembly points</u>.
- f. **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

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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, Jim Stallard by email 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. See <u>Section E.4</u> of the University Calendar.

- g. **Safewalk:** Campus Security will escort individuals day or night (See the <u>Campus Safewalk</u> website). Call <u>403-220-5333</u> for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- h. **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 <u>Legal Services</u> website.
- i. **Student Union Information:** <u>VP Academic</u>, Phone: <u>403-220-3911</u> Email: <u>suvpaca@ucalgary.ca</u>. SU Faculty Rep., Phone: <u>403-220-3913</u> Email: <u>sciencerep@su.ucalgary.ca</u>. Student Ombudsman, Email: <u>suvpaca@ucalgary.ca</u>.
- j. **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.
- k. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction (<u>USRI</u>) 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.

**Department Approval:** Electronically Approved **Date:** 2018-09-07 11:03

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

Electronically Approved **Date:** 2018-09-07 12:02

## **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 5. interpretation of algebraic expressions and functions.
- The concept of Limit Students will gain an intuition of the concept of limit, and acquire a basic 6. level of mathematical literacy on limits and their computations.
- The concept of Derivative Students will be to associate the concept of differentiation with 7. 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 8. 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

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processes of integration and differentiation.

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