



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

1. **Course:** MATH 377, Vector Calculus for Engineers and Scientists -- Winter 2018

Lecture 01: (MWF, 13:00-13:50 in ST145)

Instructor Name	Email	Phone	Office	Hours
Mohammed Aiffa	aiffam@ucalgary.ca	403 220 6313	MS 432	10:00-12:00

Course Site:

D2L: MATH 377 L01-(Winter 2018)-Vector Calculus for Engineers and Scientists

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.

Mathematics 375.

Credit for more than one of Mathematics 377, 331, 353, 367, 381 or Applied Mathematics 309 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 %
Webwork Assignments (04)	20%
Attendance and Participation	05%
Quizzes (02)	10%
Midterm Exam	25%
Final Exam	40%

Each of the above components will be given a letter grade using the official university grading system. The final grade will be calculated using the grade point equivalents weighted by the percentages given above and then converted to a final letter grade using the official university grade point equivalents.

Bear in mind that a grade of D or below will result if the student's score in the final exam is less than 40%. This is to ensure that those students who receive a C- or better have a reasonable chance to succeed 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:

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.

Midterm: *To Be Confirmed - Monday, February 26, 2018, 18:00-19:30*

6. **Course Materials:**

Textbook: *Calculus, A Complete Course, 8th Edition*, by **R. Adams & C. Essex**, Pearson Education Canada.

Earlier editions are fine as well.

7. **Examination Policy:**

No aids of any kind is permitted in the quizzes, midterm exam, and final exam. This includes calculators, lecture notes, cheat sheets, and textbooks.

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 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/). 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.
- f. **Student Union Information:** VP Academic, Phone: [403-220-3911](tel:403-220-3911) Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: sciencerep@su.ucalgary.ca. Student Ombudsman, Email: 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](http://www.usri.ca)) 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 or call [403-210-9355](tel:403-210-9355).

Homework: Homework problems will be posted on the Desire2Learn system in the form of worksheets. You are responsible for finding out what problems have been assigned. Only selected problems from the worksheets will be solved during the Thursday/Friday tutorials. Even though the homework problems are not collected, you should do as many of the assigned problems as possible. Experience shows that students who do little or no homework, usually don't do well in the course. Help is available from the instructor during office hours, and from the TA during the tutorials.

Exams: There will be **two** written quizzes, **one** midterm, one final and four webwork assignments. The written quizzes are 40 minutes long and will be held during the Thursday/Friday tutorial, on February 15/16 and April 05/06. The midterm exam is 90 minutes long. It will be held on Monday, February 26, 2018, from 18:00 to 19:30. The final exam is 3 hours. It will be scheduled by the Registrar's Office, in the period of April 16-26. Quizzes, midterm and Final are closed book and calculators are not permitted.

Webwork: is an online computer system. It can be accessed at

<https://webwork.ucalgary.ca/webwork2/W2018MATH377L01/>

Each student will have an account and will be able to do the assignments online. All 4 assignments will count toward your overall grade.

Announcements: Course announcements and other relevant material, will be available at the D2L course's website. You are strongly advised to visit the website regularly to check for new announcements and updates.

Department Approval:

Electronically Approved

Date: 2017-12-22 11:14

Course Outcomes

1. adapt to the terminology, vocabulary of vector calculus and recognize wide range of symbols it employs
2. develop proficiency on the key concepts of vector calculus and use them to compute Limits, Directional Derivatives, and Multiple Integrals of vector functions of several variables
3. use available tools such as the Divergence Theorem to significantly reduce the complexity of calculations of multiple integrals
4. apply calculus techniques to solve a wide variety of optimization problems and to treat the basic partial differential equations of mathematical physics
5. analyze appropriate real-world problems in interdisciplinary fields
6. explore the relationship between key vector calculus concepts, coordinate systems, and their geometric implications for an enhanced interpretation of certain physical and natural phenomena