



DEPARTMENT OF MATHEMATICS AND STATISTICS

COURSE OUTLINE WINTER 2016

1. **Course:** MATH 277: Multivariable Calculus for Engineers.

L01 MWF 08:00 – 08:50 ICT 102 Y. Elsabrouty Office MS 418 Tel. No. 403 220 2255 e-mail [yelsabro@ucalgary.ca](mailto:yelsabro@ucalgary.ca)

Office Hours: Wednesdays 14:30-15:30.

L02 MWF 13:00 – 13:50 MFH 162 Y. Elsabrouty Office MS 418 Tel. No. 403 220 2255 e-mail [yelsabro@ucalgary.ca](mailto:yelsabro@ucalgary.ca)

Office Hours: Wednesdays 14:30 – 15:30.

L03 TR 15:30 – 16:45 CHC 119 A. Swishchuk Office MS 522 Tel. No. 403 220 3274 e-mail [aswish@ucalgary.ca](mailto:aswish@ucalgary.ca)

Office Hours: Tuesdays & Thursdays 14:00 – 15:00, MS 522

L04 TR 12:30 – 13:45 KNB 132 D. Glin Office MS 488 Tel. No. 403 220 7598 e-mail [dlglin@ucalgary.ca](mailto:dlglin@ucalgary.ca)

Office Hours: Mondays 14:00 – 15:00.

D2L Course: MATH 277 Winter 2016 (ALL Lectures)

Department of Mathematics and Statistics – MS476 Telephone number – 403-220-5210

2. **Prerequisites:** Mathematics 275 or Applied Mathematics 217.

(see Section 3.5C of Faculty of Science [www.ucalgary.ca/pubs/calendar/current/sc-3-5.html](http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html) and Course Descriptions: [www.ucalgary.ca/pubs/calendar/current/course-desc-main.html](http://www.ucalgary.ca/pubs/calendar/current/course-desc-main.html))

3. **Grading:** The University policy on grading and related matters is described sections [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Assignments (5)	20%	(Online using MyMathLab)
Midterm test (1)	30%	(Out of Class: Friday March 11/2016)
Final Examination	50%	(To be scheduled by the Registrar)

A passing grade in the Final Examination is essential for an overall grade of D or better in the course.

Each piece of work (assignment, midterm test or final examination) submitted by the student will be assigned a letter grade. The final grade for the course will be a weighted grade point average of the individual letter grades, using the weighting factors in the table above

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.6](#) of the University Calendar

5. **Scheduled out-of-class activities:** Midterm Test, Friday March 11, 18:00 – 19:30.

**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.** If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

6. **Course Materials:** Calculus, A Complete Course, *Eighth Edition*, by R.A. Adams and Christopher Essex, Pearson Education Canada – sold in the University Bookstore.

**Online Course Component:** Online homework through MyMathLab is available on any computer that has internet access to those who opt to purchase the above textbook package. Those who do not purchase the textbook will be given access to just the homework component through some select computers labs on campus. Either way, you are responsible for completing the assigned homework in a timely fashion. The choice is up to you: If you prefer the flexibility of working on your homework from anywhere and access to the eBook. The homework is a critical component of the course to help prepare you for the exams as well as help you self-assess your progress in the course.

7. **Examination Policy:** The use of aids such as open book, and Calculators, is not permitted in Midterm or Final Examination. Students should also read the Calendar, [Section G](#), on Examinations.

## 8. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **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
- (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 with documentable disabilities are referred to the following links: [Calendar entry on students with disabilities](#) and [Student Accessibility Services](#). MSC452 Phone: 220-8237
- (d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 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 (FOIPP). As one consequence, 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 <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **Student Union Information:** VP Academic Phone: 220-3911 Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca)  
SU Faculty Rep. Phone: 220-3913 Email: [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca)  
Student Ombudsman Phone: 220-6420 Email: [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca)
- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.
- (h) At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses ([www.ucalgary.ca/usri](http://www.ucalgary.ca/usri)). Your responses make a difference - please participate in USRI Surveys.

## 09. Grading System:

The Final Grade is based on the grades achieved on Assignments, Midterm Test and a Comprehensive Final Examination as follows:

20% on Online Assignments,

30% on the 90 minute Midterm Test, and,

50% on the final examination (scheduled by the Registrar's Office in the period from April 18 to 29/2015).

Students must obtain at least a grade of "D" on the Final Examination in order to obtain an overall final grade of D or better.

There is no predetermined grade distribution (curve) for this course. All work will be graded according to the University of Calgary Undergraduate Grading System (Please refer to 2015 – 2016 Calendar)

Grade point scores for Online Assignments, Midterm Test and the Final Examination will be awarded as follows:

For each of the above components, every question will be assigned a positive weight indicating the value of the question.

All weights in a particular assignment or a test add up to "one" (1) (The same as 100 %.) Each question will be given a letter grade. The grade point value of the letter grade multiplied by the weight will be computed, and the sum of these products will be a grade point score for the assignment; its value will be between 0 and 4 and corresponds approximately to a letter grade.

It must not be interpreted as a percent grade.

Example: Five questions equally weighted (0.2 each). Letter grades are A, F, F, A, and A respectively.

The numerical grade for this assignment is  $(4.0 + 0.0 + 0.0 + 4.0 + 4.0) (0.2) = 2.4$ .

The "Overall" Final Course grade is computed in a similar way.

Example: The student is averaging 3.2 on Online Assignments and received 2.6 on the Midterm Test.

The student's credit towards the final grade is:  $(0.20) \times (3.2) + (.30) \times (2.6) = 1.42$  (Maximum 2.00)

Here the weights 0.20 and 0.30 come from the percentages given on page 1.

At the end, suppose that the Final Examination has been given 3.04.

The final numerical grade point score is:  $1.42 + (.50) (3.04) = 2.94$  (Maximum 4.00)

This grade point score is near 3 and the final letter grade assigned to this student will be in the "B-" range.

Neither the letter grades nor their numerical equivalents are "out of" anything. In other words, for example, a grade of "C" or a "2" are a qualitative assessment meaning "satisfactory" and not 50%.

10. Homework: Students should do as many of the problems in the book and / or worksheets as possible. Solutions to these problems are NOT to be handed in for grading, and solutions can be found in the Student Solutions Manual.

11. Labs: The labs are each 75 minutes in duration. Every week a lab problem set with solutions will be posted on D2L.

Students are strongly recommended to attend all labs.

There is No Lab in weeks 1, 6, and 9 and No lectures in week 6 (Reading Week).

Experience shows that students who do little or no homework and regularly skip labs will have difficulty with the course material and usually fail this course. Help is available at the Devon Academic Resource Centre. In addition, you may get help from all instructors either in the lab, office hours posted, or by an appointment. Absences from the various components of the assessment are subject to the regulations outlined on the 2015 – 2016 Calendar.

## CALENDAR

Week #	Date	Sections of the Text	Assignment / Test / Other Notes
1	Jan 11 – Jan 15	11.1 , 11.2	<b>No Lab</b> Section 11.2 ( Motion involving Varying Mass only)
2	Jan 18 – Jan 22	11.3 , 11.4* (See Note)	MATH 275 Review will be closing on Sunday Jan. 24 (11:59 pm) Note: Do Section 11.4 using General Parameterizations. Pages 644 - 649 only.
3	Jan 25 – Jan 29	11.5 , 12.1	Section 11.5: Pages 651- 653 only.
4	Feb 01 – Feb 05	10.5 , 12.3 , 12.4	Online Assignment 1 is Due on Sunday Feb. 07 (11:59 pm)
5	Feb 08 – Feb 12	12.5 , 12.6*	Section 12.6: Focus only on Linearization and differentials. Pages 705, 706, 708, 709 only.
6	Feb 15 – Feb 19	Reading Week	No Lectures & No Labs.
7	Feb 22 – Feb 26	12.7 , 12.8	Online Assignment 2 is Due on Sunday Feb. 28 (11:59 pm)
8	Feb 29 – Mar 04	14.1 , 14.2	
9	Mar 07 – Mar 11	14.3 , 14.4 , 14.5	Midterm Test, Friday Mar 11 (06:00 – 07:30 pm), No Lab.
10	Mar 14 – Mar 18	14.5 , 14.6	Online Assignment 3 is Due on Sunday Mar. 20 (11:59 pm)
11	Mar 21 – Mar 24	14.6. , 14.7*	No Lecture & No Lab March 25 ( Good Friday) Two and Three Dimensional Moments, and Centre of Mass. Optional: Moments of Inertia.
12	Mar 28 – Apr 01	14.7* ,13.1	Online Assignment 4 is Due on Sunday April 03 (11:59 pm)
13	Apr 04 – Apr 08	13.2 , 13.3	Section 13.2: Pages 753 – 755 only. Section 13.3: Pages 758 – 763 only.
14	Apr 11 – Apr 13	13.3	Online Assignment 5 is Due on Sunday April 17 (11:59 pm)

### 12. NOTES:

1. The section numbers refer to the text by R.A. Adams. Some departures from this schedule may take place.
2. The Midterm Test will be held on Friday March 11 / 2016 from 06:00 to 07:30 pm. No calculators allowed.
3. By the end of each week, you should have mastered the sections of the text indicated on the course calendar and the corresponding assignment. You should prepare for each Lecture by reading the text and for each Lab by attempting to do as many exercises as possible in advance. Your Lectures will not necessarily cover everything in detail; they should guide you in your study of the text. Similarly, your Lab instructor should help you diagnose your difficulties and teach you how to overcome them.
4. MATH 277 Weekly Lab Problems, Review Sheets are available at: [d2l.ucalgary.ca](http://d2l.ucalgary.ca)
5. MATH 277 Course Announcements will be available at: [d2l.ucalgary.ca](http://d2l.ucalgary.ca)

The Students are advised to visit the website on a daily basis to check for New Announcements, as well as Updated Course Calendar.

**Attention**  
**All MATH 277 Students**

- (1) Every student must attend her / his own lab section.  
Please check your time table for lab section number, lab time and location.
- (2) If you have missed a course component you must contact course coordinator by email **Within 48 Hours** and provide him with the documents justifying your absence.  
If you are granted an **Excuse**, the grade of that missed component **may** be distributed among other course components **or** other options will be presented to you to choose from.  
Course coordinator contact email:  
[yelsabro@ucalgary.ca](mailto:yelsabro@ucalgary.ca)

**Note:** If you have missed a course component due to Medical Conditions, the simple over the counter Doctor's Note **will not** be accepted.  
**A Physician / Counsellor Statement** is required.  
Please use the **attached** "physician / counsellor" form.  
You may consult your faculty undergraduate office for further information.

## University Of Calgary Official Grading System

<u>GRADE</u>	<u>Grade Point Value</u>
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A +	4.0
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A	4.0
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A -	3.7
-----	-----

B +	3.3
-----	-----

B	3.0
---	-----

B -	2.7
-----	-----

C +	2.3
-----	-----

C	2.0
---	-----

C -	1.7
-----	-----

D +	1.3
-----	-----

D	1.0
---	-----

F	0.0
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Student surname

Given names

Student I.D. Number

Current address

Telephone number

**TO BE COMPLETED BY STUDENT**
**GUIDELINES FOR STUDENTS**

- (1) This form must be accompanied by either an "Application for Deferred Final Examinations" or an "Application for Deferment of Term Work".
- (2) You will need a Physician/Counsellor Statement for each Faculty Office involved. The Faculty which is offering the course to be deferred grants approval/non-approval of your request.
- (3) Once this form is completed by a physician/counsellor, it will be placed in a sealed envelope for you to take to the appropriate Faculty Office(s) within 48 hours of the episode for which you believe special consideration is required. For additional information please refer to the University Calendar.

**1 Special consideration requested:**

- ☐ Deferred final examination  
☐ Special deferred final examination  
☐ Deferment of term work

**2 Date(s) of health problems**
**3 Deferred final examinations etc. are requested in the following courses:**

Session	Course name & number	Section	Instructor

**4 Student's Statement**

I certify that I was unable on the date(s) given above to perform normally in courses or to take the scheduled final examination(s) in the course(s) listed above.

*I consent to having the health information pertinent to this specific request released by a physician/counsellor to the University of Calgary with regard to my request for special consideration.*

Student's Signature

y m d

**FACULTY RULING**

Signature

☐ APPROVED ☐ NOT APPROVED

y m d

**TO BE COMPLETED BY PHYSICIAN / COUNSELLOR**
**GUIDELINES FOR PHYSICIAN / COUNSELLOR**

- (1) This form is intended to provide Deans at the University of Calgary with sufficient health information to allow them to make a decision regarding the student's request for special consideration due to health problems. The original copy of this form will be placed on the student's permanent file in the Faculty Office.
- (2) Complete the appropriate sections of this form and return it, in a sealed envelope, to the student.

**1 I have examined the above named individual and found signs and/or symptoms that may require special consideration.**

signs and/or symptoms	Date of examination	y	m	d

OR

On the basis of the information provided to me by the above named individual I believe that he/she was suffering from



on the date(s) of through

Additional comments

**2 Physician/Counsellor please check one**

On the basis of the information I have, it is ☐ it is not ☐ my opinion that the above named individual was unable on the date(s) indicated to perform normally in a course or to take a final examination for health reasons.

Signature of Physician

Printed Name

y m d

X

Address

Postal Code

Telephone number

**PLEASE RETURN THIS FORM IN A SEALED ENVELOPE TO THE STUDENT.**
**PHYSICIAN/COUNSELLOR OFFICE STAMP**

DISTRIBUTION: WHITE - Faculty YELLOW - See below PINK - Physician/Counsellor

The yellow copy of this form will be sent to University Health Services if they are initiating physicians and to the Counselling and Student Development Centre if they are the initiating counsellors after approval/non-approval is granted by a Faculty.

