

University of Manitoba
Department of Mathematics, Faculty of Science
September–December 2012

Course Number and Title: MATH 2130 Engineering Mathematical Analysis 1

Number of Credit Hours: 3

Pre-requisites: Math 1210 and Math 1710

Class Times and Locations:

Section A01: Monday, Wednesday, Friday 8:30 – 9:20 in Wallace 221

Section A02: Tuesday, Thursday, 8:30 – 9:45 in Armes 208

Tutorial Times and Locations:

For A01: Thursday 11:30 – 12:45 in St. Paul’s 100

For A02: Tuesday 11:30 – 12:45 in Tier 408

Instructor information:

Section	Instructor	Office	Telephone	Email
A01	M. Davidson	MH431	474-8090	davidsom@cc.umanitoba.ca
A02	D. Trim	MH410A	474-8760	Donald.Trim@ad.umanitoba.ca

Office hours for instructors are posted on their office doors.

Web Page: The web page for the course can be found at home.cc.umanitoba.ca/~dtrim/
Follow the links to this course.

Web Page for Old Tests and Exams: www.math.umanitoba.ca/courses

Past tests and examinations are to be used for practice only. There is no guarantee that your tests and examinations in this course will be similar to those from previous years.

Description of the Course:

1. Vector algebra; three-dimensional geometry including lines, planes, cylinders, and quadratic surfaces; lengths and tangent vectors for space curves
2. Partial derivatives, gradients, chain rules, implicit differentiation, directional derivatives, tangent lines and planes, relative and absolute extrema
3. Double and triple integrals applied to area, volume, centres of mass, moments of inertia, fluid pressure, and surface area; polar, cylindrical, and spherical coordinates

Textbook: **Calculus** for Engineers by Donald Trim (4th edition) (Pearson/Prentice Hall)

Tutorials: Each Friday tutorial problems for the following week will be posted on the course web page. You are to attempt to solve the problems **before** the tutorial. The teaching assistant will help you with difficulties that you encounter with the tutorial problems or difficulties that you have with exercises from the textbook.

Evaluation: There are three components contributing to the final grade in the course.

1. Two one-hour midterms each counting 20% The midterms will be on Wednesday, October 10 and Thursday, November 8, from 5:30 to 6:30, in rooms that will be announced in class and posted on the website for the course. You will be responsible for sections that will be announced in class for each midterm. There are no make-ups for missed midterms. If you miss a midterm and can provide an acceptable reason for doing so, accompanied by supporting evidence, the marks for that midterm will be redistributed between the other midterm and the final exam.
2. A three-hour final exam counting 60% The final exam is scheduled by Student Records. It covers the entire course, with material after the midterms weighted more heavily than material prior to the midterm.

Notes, books, calculators or other computing devices are not allowed for the midterms or the final exam.

Grading: The following can be used as a guide in changing numerical grades to letter grades. It is only a guide, however, as fluctuations in grade lines may occur.

Numerical Grade	Letter Grade
90-100	A+

80-89	A
74-79	B+
68 -73	B
61-67	C+
55-60	C
50-54	D
0-49	F

Voluntary Withdrawal Date: Voluntary withdrawal date is November 14, 2012.

Academic Dishonesty:

The Department of Mathematics, the Faculty of Science and the University of Manitoba all regard acts of academic dishonesty in quizzes, tests, examinations or assignments as serious offences and may assess a variety of penalties depending on the nature of the offence.

Acts of academic dishonesty include bringing unauthorized materials into a test or exam, copying from another student, plagiarism and examination personation. Students are advised to read section 7 (Academic Integrity) and section 4.2.8 (Examinations: Personations) in the General Academic Regulations and Requirements of the current Undergraduate Calendar. Note, in particular, that cell phones and pagers are explicitly listed as unauthorized materials, and hence may not be present during tests or examinations.

Penalties for violation include being assigned a grade of zero on a test or assignment, being assigned a grade of "F" in a course, compulsory withdrawal from a course or program, suspension from a course/program/faculty or even expulsion from the University. For specific details about the nature of penalties that may be assessed upon conviction of an act of academic dishonesty, students are referred to University Policy 1202 (Student Discipline Bylaw) and to the Department of Mathematics policy concerning minimum penalties for acts of academic dishonesty.

All students are advised to familiarize themselves with the Student Discipline Bylaw, which is printed in its entirety in the Student Guide, and is also available on-line or through the Office of the University Secretary. Minimum penalties assessed by the Department of Mathematics for acts of academic dishonesty are available on the Department of Mathematics web-page.