

MATH 1710: Applied Calculus 2

14R-T2: January – April 2014

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Office Hours: TBA

Lectures: A01: MWF 8:30-9:20am 100 St. Paul's College
A02: TR 1:00-2:15pm 200 Armes
No classes or labs Feb 17-21 (Spring Break).

Textbook: D. W. Trim, *Calculus for Engineers*, 4th edition, Prentice-Hall, 2008.

Voluntary Withdrawal Deadline: Wednesday March 19, 2014

Course Outline

We will (if time permits) cover the following content in this course (though not necessarily in this order):

- Inverse Trigonometric Functions and their derivatives with applications: section 1.8 and 3.10 (also students should review section 1.6 concerning inverse functions). Applications to related rates, and applied extreme-value problems.
- Indeterminate Forms and L'Hopital's Rule; section 4.11.
- Review of Chapters 5 and 6; a brief review of definite and indefinite integrals.
- Applications of integration: 7.1-7.4, 7-6-7.8; areas, volumes of solids of revolution, arc length, work, fluid pressure, centers of mass, moments of inertia.
- Techniques of Integration: 8.1-8.6: substitutions, integration by parts, trigonometric substitution, partial fractions.
- Parametric Equations and Polar Coordinates: 9.1-9.3; parametric equations for curves, parametric differentiation, arc length of parametric curves; polar coordinates and curve sketching in polar coordinates, slopes and lengths of curves in polar coordinates.

Student Evaluation

Two one-hour term tests: Wed Feb 5 and Tue Mar 11 25% each = 50%
Final exam (Time/Date/Location TBA) 50%

Course Webpage

The general website for the course is:

<http://www.math.umanitoba.ca/courses/MATH1710>

This website is common to all sections and contains general information all sections should be aware of. However, **please check with your instructor to see if they will be running a website designed specifically for your section.**

Calculators & Other Aids

Calculators and other computing devices cannot be used during tests or exams. However, each student is permitted to bring one information page (8.5in by 11in) into tests and the final examination. This page may contain information on one side only, must be hand-written (not mechanically reproduced) and must bear the

student's name and student identification number. Except the information page, use of notes, books, calculators, or other computing devices is not permitted during the midterm tests and the final examination.

Info on Tutorials

Each lecture section is divided into a number of tutorial sections - a smaller number of student where you get a chance to see more examples worked out and to work on problems under the supervision of a teaching assistant who knows the subject. As with the lectures, you can greatly increase the effectiveness of the tutorials by preparing for them: If you are aware of specific difficulties before you go into the tutorial, you are more likely to get them solved.

Term Tests & Final Exam Information

The two term tests will be held on Wednesday, February 5th and Tuesday March 11 from 5:30 – 6:30pm. Its location will be announced closer to the date. The date, time, and location of a 2-hour-long final examination will be set and published by the Registrar's Office. Students are reminded that they must remain available until all examination and test obligations have been fulfilled. The exam period is April 11 – 25, 2014.

Cheating and Academic Dishonesty

Students are advised to familiarize themselves with the University policy concerning “plagiarism and cheating” and “examinations – impersonations” appearing in the General Calendar.

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

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.

The Student Discipline Bylaw 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.

All Faculty members (and their teaching assistants) have been instructed to be vigilant and report incidents of academic dishonesty to the Head of the Department.