

**Faculty of Science Course Syllabus
Department of Mathematics and Statistics
Math 1280.03
Engineering Math I
Winter 2016**

Instructor(s): Daniele Gregoris daniele.gregoris@dal.ca Office: room 225, Chase Building

Lectures: MWF 1235-1325 Studley LSC-COMMON AREA C208

Laboratories: None

Tutorials: three 1 hour tutorial per week MWF 1335-1425 Studley LSC 332

*Submit course syllabus to your Depart office for posting on the Dept website prior to the start of term
Submit requests for final exam exemptions to the Dean's office at least 2 weeks prior to the start of term*

Course Description

MATH 1280 Engineering Mathematics I

CREDIT HOURS: 3

This forms an introduction to differential and integral calculus for Engineering students. All topics of [MATH 1000.03](#) are covered, but in greater depth. In addition, this course covers functions, differentiation of polynomial, trigonometric, exponential and logarithmic functions, product, quotient and chain rules, Taylor series, antiderivatives and definite integrals, Riemann sums, polynomial approximations, and numerical approximations of integrals.

NOTES: Students who have already received credit for [MATH 1280.03](#) cannot subsequently receive credit for [MATH 1000.03](#) or [MATH 1115.03](#)

FORMAT: Lecture | Tutorial

PREREQUISITES: Nova Scotia Mathematics advanced 11 and 12 or pre-calculus. Pre-calculus is highly recommended.

EXCLUSIONS: [MATH 1000.03](#), [MATH 1215.03](#)

Course Prerequisites

Nova Scotia Mathematics advanced 11 and 12 or pre-calculus. Pre-calculus is highly recommended.

Course Objectives/Learning Outcomes

Students will learn differential calculus and the beginnings of integral calculus. They will learn how to apply calculus techniques to solve various engineering problems and will be prepared to continue with Math 1290.

Course Materials

The textbook is: Calculus - Early Transcendentals - second edition by Briggs and Cochran.

The course website is on BbLearn

Course Assessment

NOTE: An exemption is required if you are not planning to hold a final exam scheduled by the Registrar's Office for the final exam period. Submit your syllabus along with your request (**and reason for the request**) to the Assistant Dean (scieasst@dal.ca) at least 2 weeks prior to the start of classes.

Component	Weight (% of final grade)	Date
Test 1	15%	January 27
Test 2	15%	February 10
Test 3	20%	March 2
Test 4	20%	March 18
Test 5	20%	April 6
10 Assignments	10%	

Other course requirements

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (<50)
A- (80-84)	B- (70-72)	C- (55-59)	

Course Policies

Late assignments will not be accepted.

Only the official Dalhousie University Health Service form, filled in by a doctor with "too ill to write" and subsequently approved by the office of the Associate Dean, will be accepted as an excuse to miss a test. Otherwise, a mark of zero will be recorded. Students must contact the instructor as soon as possible after a missed test. Any makeup tests will be held within 6 days of the original test.

Course Content

1. Review of polynomial, trigonometric, exponential, logarithmic and inverse functions (Chapter 1).
2. Limits: techniques for computing limits, horizontal and vertical asymptotes, continuity (Chapter 2).
3. Derivatives: first principles, rules of differentiation, product, quotient and chain rules, related rate problems (Chapter 3).
4. Applications of the derivative: optimization problems, curve sketching, linear approximations, L'Hopital's rule, Newton's Method, Antiderivatives (Chapter 4).

5. Integration: area under a curve, definite integrals, the Fundamental Theorem of Calculus, the substitution rule (Chapter 5).

ACCOMMODATION POLICY FOR STUDENTS

Students may request accommodation as a result of barriers related to disability, religious obligation, or any characteristic protected under Canadian Human Rights legislation. The full text of Dalhousie's Student Accommodation Policy can be accessed here:

http://www.dal.ca/dept/university_secretariat/policies/academic/student-accommodation-policy-wef-sep--1--2014.html

Students who require accommodation for classroom participation or the writing of tests and exams should make their request to the **Advising and Access Services Centre (AASC)** prior to or at the outset of the regular academic year. More information and the ***Request for Accommodation*** form are available at www.dal.ca/access.

ACADEMIC INTEGRITY

Academic integrity, with its embodied values, is seen as a foundation of Dalhousie University. It is the responsibility of all students to be familiar with behaviours and practices associated with academic integrity. Instructors are required to forward any suspected cases of plagiarism or other forms of academic cheating to the Academic Integrity Officer for their Faculty.

The Academic Integrity website (<http://academicintegrity.dal.ca>) provides students and faculty with information on plagiarism and other forms of academic dishonesty, and has resources to help students succeed honestly. The full text of Dalhousie's ***Policy on Intellectual Honesty*** and ***Faculty Discipline Procedures*** is available here:

http://www.dal.ca/dept/university_secretariat/academic-integrity/academic-policies.html

STUDENT CODE OF CONDUCT

Dalhousie University has a student code of conduct, and it is expected that students will adhere to the code during their participation in lectures and other activities associated with this course. In general:

"The University treats students as adults free to organize their own personal lives, behaviour and associations subject only to the law, and to University regulations that are necessary to protect

- the integrity and proper functioning of the academic and non – academic programs and activities of the University or its faculties, schools or departments;
- the peaceful and safe enjoyment of University facilities by other members of the University and the public;
- the freedom of members of the University to participate reasonably in the programs of the University and in activities on the University's premises;
- the property of the University or its members."

The full text of the code can be found here:

http://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

COPYRIGHT

All members of the Dalhousie community are expected to comply with their obligations under Canadian copyright law. Dalhousie copyright policies and guidelines, including our Fair Dealing Guidelines, are available at <http://www.dal.ca/dept/copyrightoffice.html>. Copyright questions should be directed to the Copyright Office at copyright.office@dal.ca.

SERVICES AVAILABLE TO STUDENTS

The following campus services are available to help students develop skills in library research, scientific writing, and effective study habits. The services are available to all Dalhousie students and, unless noted otherwise, are free.

Service	Support Provided	Location	Contact
General Academic Advising	Help with - understanding degree requirements and academic regulations - choosing your major - achieving your educational or career goals - dealing with academic or other difficulties	Killam Library Ground floor Rm G28 Bissett Centre for Academic Success	In person: Killam Library Rm G28 By appointment: - e-mail: advising@dal.ca - Phone: (902) 494-3077 - Book online through MyDal
Dalhousie Libraries	Help to find books and articles for assignments Help with citing sources in the text of your paper and preparation of bibliography	Killam Library Ground floor Librarian offices	In person: Service Point (Ground floor) By appointment: Identify your subject librarian (URL below) and contact by email or phone to arrange a time: http://dal.beta.libguides.com/sb.php?subject_id=34328
Studying for Success (SFS)	Help to develop essential study skills through small group workshops or one-on-one coaching sessions Match to a tutor for help in course-specific content (for a reasonable fee)	Killam Library 3rd floor Coordinator Rm 3104 Study Coaches Rm 3103	To make an appointment: - Visit main office (Killam Library main floor, Rm G28) - Call (902) 494-3077 - email Coordinator at: sfs@dal.ca or - Simply drop in to see us during posted office hours All information can be found on our website: www.dal.ca/sfs
Writing Centre	Meet with coach/tutor to discuss writing assignments (e.g., lab report, research paper, thesis, poster) - Learn to integrate source material into your own work appropriately - Learn about disciplinary writing from a peer or staff member in your field	Killam Library Ground floor Learning Commons & Rm G25	To make an appointment: - Visit the Centre (Rm G25) and book an appointment - Call (902) 494-1963 - email writingcentre@dal.ca - Book online through MyDal We are open six days a week See our website: writingcentre.dal.ca