DALHOUSIE UNIVERSITY

Faculty of Science Course Syllabus
Department of Mathematics and Statistics
MATH 1010
Differential and Integral Calculus II
Summer 2018

Instructor:	Mr. C. DeGagne	DeGagne@dal.ca	Chase 328
Lectures:	MW 6:05PM - 9:25PM	LSC 338	
Office Hours	TR 1:30PM - 3:30PM	Chase 319	

Course Description

A continuation of the study of calculus with topics including: Riemann sums, techniques of integration, elementary differential equations and applications, parametric equations and polar coordinates, sequences and series, Taylor series.

Course Prerequisites

MATH 1000.03, or MATH 1215.03 with a grade of B or better

Course Objectives/Learning Outcomes

This course presents the theory, application, and algorithms relevant to solving linear programming problems. In this course, students will achieve the following outcomes:

Student will:

1) Be able to understand the significance and various methods of evaluation of integrals, including calculating volumes.
2) Be able to understand how to utilize parametric representations of plane curves.
3) Be able to compute areas and arc lengths associated with general parametric curves, and specifically for curves defined by both Cartesian and polar coordinates.
4) Be able to understand the significance of sequences, series, and their associated convergence behaviour.
5) Be able to understand power series as well as the extent to which functions can be represented by Taylor and MacLaurin series.

Course Materials

We will be using the textbook *Single Variable Calculus – Early Transcendentals, Eighth Edition,* by James Stewart.

The course website will be on BrightSpace. To access your Math 1010 course on BrightSpace you may login to: https://dal.brightspace.com/d2l/login. Alternatively, you can select the OWL link that appears on the Dalhousie homepage (http://www.dal.ca). It is important that you familiarize yourself with the systems requirement for proper access to BrightSpace.

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You will need at various times to gain information from different areas of BrightSpace. Most importantly:

1. The course outline as well as a link to the assignments can be found under **Content.**
2. Your grades can be found under **Progress**

Class Content Outline

The course will be structured into the following weeks.

Lecture Date	Sections	Topics
May 7th	6.1, 6.2, 6.3	Areas Between Curves, Volumes, Volumes by Cylindrical Shells
May 9th	7.1, 7.2, 7.3	Integration by Parts, Trigonometric Integrals, Trigonometric Substitution
May 14th	7.4, 7.5, 7.7, 7.8	Integration of Rational Functions by Partial Fractions, Strategy for Integration, Approximate Integration, Improper Integrals
May 16th	8.1, 8.2, 10.1, 10.2	Arc Length, Area of a Surface of Revolution, Curves Defined by Parametric Equations, Calculus with Parametric Curves
May 21st	NO CLASS	University closed for Victoria Day
May 22nd		**Last day to drop without "W"**
May 23rd	10.3, 10.4	Polar Coordinates, Areas and Lengths in Polar Coordinates
May 28th	11.1, 11.2, 11.3	Sequences, Series, The Integral Test
May 30th	11.4, 11.5, 11.6, 11.7	The Comparison Tests, Alternating Series Test, Absolute Convergence and the Ratio and Root Tests, Strategies for Testing Series
June 4th	11.8, 11.9	Power Series, Representations of Functions as Power Series
June 6th	11.10	Taylor and Maclaurin Series
June 9th		**Last day to drop with a "W"**
June 11th	REVIEW	
June 13th	**FINAL EXAM**	In room LSC 240 from 6PM – 9PM

Course Assessment Component

Component	Weight (% of final grade)	Date
Quizzes	15%	Daily in class
Assignments	10%	Weekly
Midterm	25%	During the week of May 28th
Final Exam	50%	June 13th in LSC 240 from 6-9PM

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)		

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Course Policies

1) Assignments will be due Monday evenings at 11:59PM.
2) Late assignments may be accepted with a valid reason, until solutions are posted, after which no late assignments can be accepted.
3) Missed assignments and quizzes, with a valid reason, will be dealt with on an individual basis.
4) In class quizzes will focus on feedback. Grades will be given, but the purpose of these quizzes is to grow and to prepare you for the midterm and exam. Each question will be weighted out of four: 0 for not doing the question, 1 for struggling with the question (a lot of feedback), 2 for having a good idea of the methods, but still needing improvement, 3 for almost getting the question but not quite (little feedback), and 4 for the correct solution.
5) This course will only be cancelled in relation to weather related emergencies when the university is officially closed.
6) It will not be possible to write the final exam early and there will only be a make-up of the final exam in case of illness or family emergencies. So do not schedule your flight home before the final exam date.
7) There will be no makeup midterm. If you miss the midterm without **prior** permission, then it will count as a zero. Exceptions are made in two cases: (1) if you obtain the instructor's permission **prior** to a midterm, or (2) if you miss a midterm for a medical reason and have a doctor's note (you must notify the instructor **prior** to the exam, and provide a medical note upon your return). In these cases, the weight of the missed midterm will be shifted to the final exam (so your final exam will be worth 75% of your final grade).
8) Office hours will be on Tuesdays and Thursdays from 1:30PM until 3:30PM in Chase 319. **Because there is no mandatory tutorial, office hours will act as an optional tutorial period.** This will be a time where students can work on the assignments. There will also be extra work sheets available to practice the material covered in class. Though these sessions are not mandatory, students are encouraged to attend for part (if not all) of it. This will also be a time where students can ask their own questions regarding the material.

BrightSpace Discussions

There will be discussion threads set up on BrightSpace under **Discussions.** This will be a place for students to ask questions regarding the assignments, as well as the midterm and exam material. Any student may post and answer questions, but answers given to assignment questions must not be solutions. Anonymous posting is available.

University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

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

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: http://www.dal.ca/cultureofrespect.html)

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit the office (Rm 3037, McCain Building), e-mail (elders@dal.ca) or leave message (902-494-6803).

Information: https://www.dal.ca/campus_life/communities/native.html

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Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

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Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: https://www.dal.ca/faculty/science/current-students/academic-advising.html

Aboriginal Student Centre: https://www.dal.ca/campus_life/communities/native.html

Black Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: https://libraries.dal.ca/

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: https://libraries.dal.ca/services/copyright-office.html

Fair Dealing Guidelines https://libraries.dal.ca/services/copyright-office/fair-dealing.html

Other supports and services

Student Health Services: https://www.dal.ca/campus_life/health-and-wellness/health-services/services.html

Counselling: https://www.dal.ca/campus_life/health-and-wellness/counselling.html

Student Advocacy: https://www.dsu.ca/services/community-student-services/student-advocacy-service

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Research Lab Safety
https://www.dal.ca/content/dam/dalhousie/pdf/dept/safety/lab_policy_manual_2007.pdf

Biosafety: https://www.dal.ca/dept/safety/programs-services/biosafety.html

Chemical Safety: https://www.dal.ca/dept/safety/programs-services/chemical-safety.html

Radiation Safety: https://www.dal.ca/dept/safety/programs-services/radiation-safety.html

Scent-Free Program: https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html