DALHOUSIE UNIVERSITY

Faculty of Science Course Syllabus
Department of Mathematics and Statistics
Math 1010
Differential & Integral Calculus II
Summer 2019

Instructor:	Leila Mohammadi	Leila.mohammadi@dal.ca	Chase 328
Lectures:	MW 9:05AM-11:55 AM	HENRY HICKS ACADEMIC 217	
Office Hours:	TR 3-4:30 PM	Chase 119 (Learning Centre)	

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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

- Understand the significance and apply various methods of evaluation of integrals.
- Understand how to utilize parametric representations of plane curves.
- Be able to compute areas and arc lengths associated with general parametric curves and specifically for curves defined by both Cartesian and polar coordinates.
- Understand the significance of sequences, series and their associated convergence behaviour.
- Understand power series as well as the extent to which functions can be represented by Taylor/Maclaurin series.

Course Materials
- Textbook: Single Variable Calculus – Early Transcendentals, Eighth Edition, by James Stewart.
- Brightspace: Assignments will be hosted through Brightspace (via Webwork), as well as important announcements (please keep notifications on) and other course information.
- Webwork: Your online assignments will appear in Webwork, accessed through links appearing under Content in Brightspace.

Course Assessment

- Assignments   20%   Online, accessed via Brightspace
- Midterm   30%   Wednesday, July 24, 9:05-10:30 AM
- Final Exam   50%   Monday, August 19, 9:05-11:55 AM. Must pass final exam to pass the course.

Other course requirements
- Students are expected to attend class and take notes.

- The instructor will assign extra practice problems at the end of each class. These problems will not be formally graded but it is to the students' benefit to work through extra practice problems to be adequately prepared for the midterm and final exams. If you would like feedback on your solutions, you are welcome to come to office hours (or by appointment) to discuss solutions with your instructor.

Conversion of numerical grades to Final Letter Grades follows the <u>Dalhousie Common Grade Scale</u>

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
- Assignments will be due Monday evenings at 11:59PM.
- Late homework will **not** be accepted except with the instructor's prior permission.
- Calculators, textbooks and notes are **not** allowed for midterm and final tests.
- A missed midterm would be considered as zero unless the student provides an acceptable reason (such as a doctor note) and notifies the instructor before the exam begins. In this case, there will be **no** make up exam and the weight of the exam will be transferred to the final exam.
- It will not be possible to write the final exam early. So do not schedule your flight home before the final exam date.
- A Missed final exam can be made up for documented illness or upon receipt of equivalent proof of inability to write at the scheduled time. You must contact the instructor prior to the exam to be considered for makeup exam.
- This course will only be cancelled in relation to weather related emergencies when the
- university is officially closed.
- Information about the course may be given during class. It is the responsibility of the students to ensure that they are made aware of what occurs during classes.

Course Content
Below is an approximate course schedule. The topic numbers relate to sections from the assigned textbook.

Date	Topics
July 3	6.1- Areas Between Curves 7.1- Integration by Parts
July 8	7.2 Trigonometric Integrals 7.3 Trigonometric Substitution
July 10	7.4 Integration of Rational Functions by Partial Fractions 7.5 Strategy for Integration
July 15	7.7 Approximate Integration 7.8 Improper Integrals
July 17	7.8 Improper Integrals (continued) 8.1 Arc Length

July 17	**Last day to drop a course without "W"**
July 22	10.1 Curves Defined by Parametric Equations 10.2 Calculus with Parametric Curves
July 24	**Midterm (1.5 hours);** 10.3 Polar Coordinates
July 29	10.4 Areas and Lengths in Polar Coordinates 11.1 Sequences
July 31	11.2 Series 11.3 The Integral Test and Estimates of Sums
August 2	**Last day to drop a course with "W"**
August 5	**Natal Day - University closed**
August 7	11.4 The Comparison Tests 11.5 Alternating Series 11.6 Absolute Convergence and the Ratio and Root Tests
August 12	11.7 Strategies for Testing Series 11.8 Power Series
August 14	11.9 Representations of Functions as Power Series 11.10 Taylor and Maclaurin Series
August 19	**Final Exam**

Student Recourses

- The Mathematics & Statistics Learning Centre: Math TAs are available in Room 119, first floor of Chase building on a first come first served basis, free of charge. To see the current schedule, please visit the Recourse Centre's webpage: https://www.dal.ca/faculty/science/math-stats/about/learning-centre.html

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 or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

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

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

Missed or Late Academic Requirements due to Student Absence (policy)

https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html

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

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students 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 & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: https://dsu.ca/dsas

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

Safety

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