DALHOUSIE UNIVERSITY

Faculty of Science Course Syllabus
Department of Mathematics and Statistics
Math 2001
Intermediate Calculus
Summer (A) 2020

Instructor(s): Kunpeng Wang   KunpengWang@dal.ca

Lectures: *Online*

Tutorials: *N/A*

Office Hours: *W/F 8:00-9:30 PM (AST)*

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Course Description
Topics include review of parametric equations, polar coordinates, conic sections, coordinate systems and vectors, dot product and cross product, vector functions, derivatives and integrals of vector functions, arc length and curvature, functions of several variables and partial derivatives, directional derivatives and double and triple integrals.

Course Prerequisites
MATH 1010.03

Course Objectives/Learning Outcomes
Parametric curves and polar coordinates: 10.1-10.3 (numbers indicate sections in the text)
Conic sections: 10.5-10.6
Three-dimensional vectors and analytic geometry: 12.1-12.6
Vector functions and space curves: 13.1-13.2
Derivatives and integrals of vector functions -- arclength, curvature, velocity, acceleration: 13.3-13.4
Functions of several variables: 14.1-14.2
Partial derivatives – linear approximation and the chain rule: 14.3-14.5
Directional derivatives and the gradient vector: 14.6
Max and min values, Lagrange multipliers: 14.7-14.8
Double integrals: 15.1-15.4
Applications of double integrals: 15.5-15.6

Course Materials
Calculus, by James Stewart, 8th edition

Course Assessment
Weekly assignments and quizzes

Component	Weight (% of final grade)
Tests	*70%*
Assignments	*30%*

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

1) *Assignments are given on Webwork. There will be seven weekly assignments, which will open each week on Monday at 1 PM AST and will close on Sunday at 11:59 PM AST (midnight), e.g., the first assignment will open on May 11th and will close on May 17th.*

2) *There will be seven weekly tests. Each test will include several true/false, multiple-choice, fill-in-the-blank and short-answer questions. Tests will open each week on Monday at 10 AM AST and will close on Monday at 12 PM AST. Once you start a test, you will have two hours to finish it. The true/false, multiple questions and fill-in-the-blank are held on Webwork while short-answer questions will be posted on Brightspace. Only one attempt is given for the test. You can scan or take photo of your solutions to the short-answer questions and submit the solutions on Brightspace. Please make sure you save your document in a file in the pdf format. Textbooks, course notes and calculators are not permitted during tests. You are not allowed to work on tests with your peers.*

3) *Late homework will not be accepted except with my prior permission. A missed test cannot be written at another time. If you miss a test without my prior permission, then it will count as 0. Exceptions are made in two cases: (1) if you obtain my prior permission to miss a test, or (2) if you have an officially valid excuse such as a medical doctor's note. At most one make-up test will be given.*