Mathematics 2015 3.0 Section B
Applied Multivariate and Vector Calculus
Fall 2019
Days: Mondays, Wednesdays and Fridays
Time: 10:30 a.m. – 11:20 a.m.
Place: Vari Hall A

Course Coordinator: Professor M. W. Wong
Office: N530 Ross Building
Office Hours: Tuesdays and Thursdays, 11:30 a.m. - 1:00 p.m.
E-Mail: mwwong@mathstat.yorku.ca
Website: http://mwwong.info.yorku.ca

Textbook: You have the following options:
(1) James Stewart, Calculus: Early Transcendentals, Eighth Edition, Cengage Learning, 2016, and Enhanced WebAssign (EWA)
(2) Standalone multi-term version of EWA that includes the online version of the textbook. (You can buy it online at www.bookstore.yorku.ca or pick up a flyer and take it to the cashier at the bookstore.)

Course Objectives The aim of this course is to study differentiation and integration of functions defined on regions in $\mathbb{R}^2$ and in $\mathbb{R}^3$. In differentiation, the students are expected to learn the basic tools such as partial derivatives, tangent planes to surfaces in $\mathbb{R}^3$, directional deivatives, the gradient, maxima and minima of functions of more than one variable. In integration, the students are expected to learn double integrals in rectangular and polar corordinates, and triple integrals in rectangular, cylindrical and spherical cordinates, techniques in changes of coordinates in double and triple integrals. The course ends with Green's Theorem, Stokes' Theorem and the Divergence Theorem blending differentiation and integration in multivariable calculus. They can be considered as analogs of the Fundamental Theorem of Calculus usually attributed to Isaac Newton.

Syllabus: The following sections of the textbook will be covered.
Sections 14.1-14.7, (14.8 if time permits), 15.1-15.9, 16.1-16.9

Grading Scheme:
Assignments (WebAssign): 20%
Two Class Tests: 20% each
Final Exam: 40%

Important Dates:
Test 1 on Friday, October 11, 2019
Test 2 on Friday, November 15, 2019
Final Exam: TBA

An Important Note about Tests and the Final Exam:
There will be no make-up tests. Students who have to miss a test for any good reasons with proof(s) may request to have the weight of the test moved to the final exam.