Department of Mathematics & Statistics

Concordia University

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MAST 219 (MATH 265)
Multivariate Calculus II
Winter 2016

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Office hours: Wednesdays: 3:00-4:30 pm.

Prerequisites: MATH 264/MAST 218.

Text: *Multivariable Calculus*, 8th Edition by J. Stewart, (Brooks/Cole, Belmont, CA, USA).

Assignments: Assignments are *very important* as they indicate the level of difficulty of the problems that students are expected to solve and understand. Therefore, every effort should be made to do and understand them *independently*. The assignments will be corrected and graded; they are worth 10% of the final grade. The assignments and solutions will be posted on my web page from week to week. Assignments are to be submitted on paper in class. Late assignments will not be accepted.

Web Resources: Many excellent animated illustrations to the text of the book are collected at the site www.stewartcalculus.com, see TEC (Tools for Enriching Calculus) for the edition 8E. Regular use of this resource is much recommended.

Use of Computer Algebra System: It is optional but much recommended to install and use Maple. The computer tools can be used to verify and illustrate any analytical results you get while doing your assignment problems.

Calculators: Electronic communication devices (including cell phones) are not allowed in examination rooms. Only "Faculty Approved Calculators" (**SHARP EL-531** or **CASIO FX-300MS**) are allowed in examination rooms during the midterm test and the final exam.

Tests: A 1¼ - hour midterm test will be held in class on March 3rd. Start time: 6 pm. **There is no make up for a missed test.**

Final Grade: The higher of the following:
• 90% final exam, 10% assignments (see below), or
• 30% midterm, 10% assignments (see below), and 60% final.

Approximate Schedule of Sections and Topics

Week	Sections	Topics
1	15.1, 15.2	Double and iterated integrals; Fubini's Theorem
2	15.3	Double integrals over general regions; Double integrals in polar coordinates
3	15.4	Double integrals in polar coordinates (part 2); Applications of double integrals
4	15.5 15.6	Surface area Triple Integrals
5	15.7 15.8	Triple integrals in cylindrical and spherical coordinates
6	15.9	Change of variables in multiple integrals Review CHAPTER 15
7	 16.1	 Vector fields.
		MIDTERM BREAK
8	16.2, 16.3	Line integrals; Fundamental theorem for line integrals
9	16.4, 16.5	Green's Theorem; Curl and Divergence
10	16.6	Parametric surfaces
11	16.7	Surface integrals
12	16.8, 16.9	Stokes' Theorem; Divergence Theorem
13		Review