Department of Mathematics & Statistics
Concordia University

> **MAST 219 (MATH 265)**
> Multivariable Calculus II
> ***Fall 2016***

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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. These grades together are worth a maximum of 10% of the final grade. Solutions to assignments will be posted on *Moodle* after they have been graded.

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 calculators approved by the Department (with a sticker attached as proof of approval) are permitted in the class test and final examination. The preferred calculators are the **SHARP EL-531** and the **CASIO FX-300MS,** available at the Concordia Bookstore.

Tests: One class midterm test covering the first six weeks will be given in week 7. **There is no make up for a missed test.**
The final examination will be three hours long. It will cover material from the entire course.

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

Plagiarism: Cases of plagiarism (including the assignments, the midterm test and the final exam) will be treated according to the University policy.

Week	Sections	Topics
1	15.1	Double and iterated integrals; Fubini's Theorem
2	15.2; 15.3	Double integrals over general regions; Double integrals in polar coordinates
3	15.3; 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; 16.2	Mid-term exam (CHAPTER 15); Vector fields. Line integrals
8	16.2; 16.3	Line integrals (continuation) 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

- Assignments for each week must be handed in at the beginning of the next week first class. **Late assignments will not be accepted.**