Department of Mathematics & Statistics
Concordia University

MATH 265
Advanced Calculus II
Winter 2020

Instructor*: _____

Office/Tel No: _____

Office Hours: _____

*Students should get the above information from their instructor during class time. The instructor is the person to contact should there be any questions about the course.

Prerequisites: MATH 264/MAST 218. If your grade in MATH 264/MAST 218 is less than or equal to D+, it is recommended that you retake the prerequisite before taking this course.

Text: *Multivariable Calculus*, 8th Edition by J. Stewart, (Cengage Learning, © 2016).

WeBWorK: Every student will be given access to an online system called **WeBWorK**. Students will use this system to do online assignments   (see Assignments below).

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. Students are expected to submit assignments online using **WeBWorK**. Late assignments will not be accepted. Assignments contribute 10% to the final grade. Students are also strongly advised to work on the suggested problems in the table on page 2.

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 highly recommended.

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

Calculators: 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. A list of approved calculators can be found at http://www.concordia.ca/artsci/math-stats/services.html#calculators

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.

If the grading scheme for this course includes graded assignments, a reasonable and representative subset of each assignment may be graded. Students will not be told in advance which subset of the assigned problems will be marked and should therefore attempt all assigned problems.

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	Suggested Problems
1	15.1	Double integrals over rectangles Fubini's Theorem	p.1039: 4,10,12, 22, 24, 32 ,34 38,39,42,43
2	15.2 15.3	Double integrals over general regions Double integrals in polar coordinates	p.1048:10,16,18,20,28,30,54,56 p.1054: 6, 8,11,14
3	15.3 15.4	Double integrals in polar coordinates (part 2) Applications of double integrals	p.1054: 17, 20, 26, 29, 36,39 p.1065: 6, 8, 16,24,28,30
4	15.5 15.6	Surface area Triple Integrals	p.1068: 4, 6, 8,14,23 p.1077: 2, 6, 12, 16, 20, 22
5	15.7 15.8	Triple integrals in cylindrical and spherical coordinates	p.1083: 8, 19, 20, 24 p.1090: 8, 10, 22, 30, 36, 42
6	15.9	Change of variables in multiple integrals Review: Chapter 15	p.1100: 15, 16,18, 23, 25
7	16.1 16.2	Vector fields. Line integrals **Mid-term exam** (Chapter 15)	p.1113: 4, 6, 23,24,33
8	16.2 16.3	Line integrals (continuation) Fundamental theorem for line integrals	p.1124: 8, 14, 22, 36,39, 40 p.1134: 2, 8, 14, 17, 24
9	16.4 16.5	Green's Theorem; Curl and Divergence	p.1142: 8, 12, 18, 22, 24 p.1149: 6, 10, 12, 16, 21,22,25
10	16.6	Parametric surfaces	p.1160: 4, 6, 14, 20, 23, 26, 33, 35,40, 42, 49

11	16.7	Surface integrals	p.1172: 4, 6, 10, 18, 22, 24, 26, 31,40,49
12	16.8 16.9	Stokes' Theorem; Divergence Theorem	p.1179: 2, 5, 7, 9,14,16,19 p.1185: 4,10,12 ,18,19,24
13		**Review**	

Academic Integrity and the Academic Code of Conduct
This course is governed by Concordia University's policies on Academic Integrity and the Academic Code of Conduct as set forth in the Undergraduate Calendar and the Graduate Calendar. Students are expected to familiarize themselves with these policies and conduct themselves accordingly. "Concordia University has several resources available to students to better understand and uphold academic integrity. Concordia's website on academic integrity can be found at the following address, which also includes links to each Faculty and the School of Graduate Studies: concordia.ca/students/academic-integrity." *[Undergraduate Calendar, Sec 17.10.2]*