Math 200 -- Multivariable Calculus
Winter 2016-2017 Term 2

Common Course Outline

This is the common course outline for Math 200 (Winter Term 2, 2016-17). For section-specific information, please refer to resources provided by individual sections' instructors. See the common course website for complementary information, located at:

http://www.math.ubc.ca/~oyilmaz/courses/m200/m200_common.html

TEXTBOOK INFORMATION

Our primary reference for the course will be the online textbook at http://www.apexcalculus.com (see the common course site for this and additional references). Our reference and use of these free online textbooks will be in accordance with the creative commons license at

https://creativecommons.org/licenses/by-nc-sa/3.0/

In addition to these, any standard textbook in multivariable calculus will also serve asa reference for most of the topics in this course. This includes the textbook by Stewart, used for this course in recent past years.

GRADING SCHEME

- weekly webwork assignments (worth 10% of overall grade)
- 5 in class quizes (worth 15% of overall grade)
- 1 midterm exam (worth 25% of overall grade)
- 1 final exam (worth 50% of overall grade)

MORE INFORMATION ON WEBWORK AND TESTS

WeBWork ONLINE HOMEWORK

The weekly WeBWork assignments can be reached at:
https://webwork.elearning.ubc.ca/webwork2/MATH200-ALL_2016W2
The due dates are Fridays at 11:59pm (see webwork site).

IN-CLASS QUIZZES

There will be 5 quizzes. These will be short 10 minute quizes that will take place in class on the dates listed

below. The information for each quiz below will be updated closer to the time of the quiz -- please check your section's website for up-to-date information. The solutions to these will be posted on the individual sections' websites. The Friday dates below are for MWF sections, and the Thursdays are for TT sections.

- **Quiz 1:** Jan 12 (Thursday), Jan 13 (Friday)
- **Quiz 2:** Jan 26 (Thursday), Jan 27 (Friday)
- **Quiz 3:** Mar 2 (Thursday), Mar 3 (Friday)
- **Quiz 4:** Mar 16 (Thursday), Mar 17 (Friday)
- **Quiz 5:** Mar 30 (Thursday), Mar 31 (Friday)

MIDTERM EXAM INFORMATION

1. **Date:** Thursday, Feb 9 in class (for T-TH sections); Friday. Feb 10 in class (for MWF sections)
2. **Time/Place:** During regular class time in the regular classroom
3. **Duration:** 50 minutes
4. **What is covered:** Check your section's website for specific information on test material. It may differ for different sections.
5. **IMPORTANT:** Check the common course website and your individual section's website for further announcements regarding the midterm.

COURSE OUTLINE

The following is an outline of the topics to be covered in the course. The section numbers below correspond to the primary textbook. See the common course site for additional information as well as suggested problems from the textbook and also suggested problems from past final exams.

Part I: 3-Dimensional Geometry (10.1-10.6)

Introduction, three dimensional coordinate systems, vectors, dot product, cross product, equations of lines and planes, cylinders and quadratic surfaces

Part II: Differentiation of Multivariable Functions (12.1-12.8 & 14.8 from secondary text #1)

Functions of several variables, limits and continuity, Partial derivatives, Tangent planes and linear approximations, chain rule, directional derivatives and gradient vector, Maximum and minimum values, Lagrange multipliers

Part III: Integration of Multivariable Functions (13.1-13.6 and 14.1 from secondary text #2)

Double integrals over rectangles, Iterated integrals, double integrals over general regions, Double integrals in polar coordinates, applications of double integrals, triple integral, Triple integrals in cylindrical and spherical

coordinates

COURSE POLICIES

1. No electronic devices will be allowed at the midterm and final exam. This includes calculators, cell phones, music players, and all other such devices. Formula sheets and other memory aids will not be allowed.
2. Missing a homework, a quiz, or a midterm normally results in a mark of 0. Exceptions may be granted in two cases: prior consent of the instructor or a medical emergency. In the latter case, the instructor must be notified within 48 hours of the missed test, and presented with a doctor's note immediately upon the student's return to UBC. Failure to comply results in a 0 mark. If a midterm was missed for legitimate reasons, the weight of the missed midterm will be transferred to the final. Make-up midterms will not be provided. **Please note that a student may NOT have 100% of their assessment based on the final examination. A student who has not completed a substantial portion of the term work normally shall not be admitted to the final examination.**
3. Missing the Final Exam: You will need to present your situation to the Dean's Office of your Faculty to be considered for a deferred exam. See the Calendar for [detailed regulations](). Your performance in a course up to the exam is taken into consideration in granting a deferred exam status (e.g. failing badly generally means you won't be granted a deferred exam). In Mathematics, generally students sit the next available exam for the course they are taking, which could be several months after the original exam was scheduled.
4. UBC takes cheating incidents very seriously. After due investigation, students found guilty of cheating on tests and examinations are usually given a final grade of 0 in the course and suspended from UBC for one year. [More information.]()
5. Note that academic misconduct includes misrepresenting a medical excuse or other personal situation for the purposes of postponing an examination or quiz or otherwise obtaining an academic concession.

GETTING HELP AND ADDITIONAL RESOURCES

- In addition to your instructor's office hours, please take advantage of the [Math Learning Centre drop-in tutoring.]() Do not wait till the exams -- if you feel uncomfortable with any of the material, talk to your classmates, talk to the instructor, and come ask questions at the Math Learning Centre.

- You can use [Wolfram Alpha]() -- it is a wonderful tool for calculations, plotting graphs of functions of two variables, and various other tasks. If you want to visualize, for example, the surface $x^2+xy-y^2+3z=0$, just type in "plot (x^2+xy-y^2+3z=0)".