Math 200 Section 106 2016W

(Syllabus text as posted on Connect site for the section and on common course website for Math 200.)

MWF 15:00-16:00, LSK 200

Warren Code

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Welcome to our site for section 106 this term. It includes the following sections:

- **Section Information** (this page): any section-specific information that was announced in class.
- **Common Course Website**: link to the common course page for Math 200
  http://www.math.ubc.ca/~chau/MATH_200_2016/MATH_200_common.html
- **Reading, Key Ideas, Suggested Problems**: Learning goals by week, and the associated class topics, textbook references, and material relevant to specific quizzes.
- **Announcements (emailed)**: You should receive these by email; they are collected here for your reference as well.
- **Extra Notes and Links**: Videos, animations, and other notes to supplement the textbook.
- **Worksheets and Class Notes**: blank and filled-in versions of the worksheets from class, and scans of the notes from the document camera.
- **Quizzes**: Solutions and comments on the quizzes and the midterm.
- **My Grades**: View your quiz and midterm grades.

Instructor

Warren Code

Email me at warcode@science.ubc.ca

More about me and my work at UBC on my home page with the Science Centre for Learning and Teaching: https://sclt.science.ubc.ca/warcode

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Quizzes

We will have six graded quizzes; collectively they will make up 15% of your course grade. These will be approximately 10 minutes long, at the start of class on the following dates (note November 11 is a holiday, so we will hold the quiz on the Wednesday before).

Quiz solutions and notes are available in the Quizzes section of this Connect site.

Quiz 1: Fri Sept 16

Quiz 2: Fri Sept 30

Quiz 3: Fri Oct 28

Quiz 4: Wed Nov 9

Quiz 5: Fri Nov 18

Quiz 6: Fri Nov 25

Midterm Exam: October 14 in class

We will have a midterm, worth 25% of the course grade, on Friday, October 14 during our class period. It will take the full 50-minute period. More details will appear here as we approach the test date.

WeBWorK

There will be weekly assignments in UBC's hosted online homework system, WeBWoRK, which uses the same login (CWL) as Connect. Collectively, they will contribute 10% to your course grade. These assignments are the same across all sections of Math 200 this term.

https://webwork.elearning.ubc.ca/webwork2/MATH200-ALL_2016W1/

Textbook

For most of the course, we will be using APEX Calculus, which you can download for free (there are some print copies available in the UBC Bookstore, or you can arrange to print it on your own if you would like a physical copy). We will be using "Version 3.0, Volume 3 (Chapters 9 - 13)" as listed on the APEX Calculus Download page. http://www.apexcalculus.com/downloads/

The alternate texts for some topics can be found in the Reading, Key Ideas, and Suggested Problems section.

Office Hours

Wednesdays after class, 4:00-5:00pm in Math Annex 1102 (close to LSK)

Thursdays 3:00-4:30pm in ESB 4009 (ESB is across from the whale skeleton on Main Mall, this room is just off the atrium stairs on the 4th floor)

Fridays after class, 4:00-4:45pm in Math Annex 1102 (close to LSK)

If you cannot make one of these time or need to see me otherwise, please email to set up an appointment (warcode@science.ubc.ca).

The Math Learning Centre is open 11am-6pm weekdays during the term (https://www.math.ubc.ca/~MLC/)

Grades (from common course website)

Your grade in the course will be determined by your grades in

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

Course policies (from common course website)

1. No electronic devices will be allowed at the final examination. This includes calculators, cell phones, music players, and all other such devices. Formula sheets and other memory aids will not be allowed.
2. Missing midterms: If a student misses a midterm, that student shall provide a documented excuse or a mark of zero will be entered for that midterm. Examples of valid excuses are an illness which has been documented by a physician and Student Health Services, or an absence to play a varsity sport (your coach will provide you with a letter). In the case of illness, the physicians note must contain the statement that ``this student was/is physically unfit to attend the examination on the scheduled date''. There will be no make-up midterms, and the weight of the missed midterm will be transferred to the final examination. 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.

Course Outline (from common course website)

The following is an outline of the topics to be covered in the course. The suggested problems from the Primary textbook listed below represent the order in which we will be covering the topics. These will not be collected or graded. You are strongly advised to work out the problems in detail before looking at the solutions as they will give you practice in the techniques learned in class and provide essential help in preparing for the WebWorK homework, midterms, and final exam. Suggested problems from PAST FINALS are also listed below. Note that you can also search the Math 200 resource wiki for past exam problems basedo n their topics. Finally, you are encouraged to learn how to use Wolfram Alpha (the syntax you need to know for this is similar to using Webwork, which you will have to use anyways) although there will not be specific reference to it in the course. You can even check some of your homework answers wich Wolfram Alpha.

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 quadric surfaces
suggested problems from text:
Section 10.1, problems 1-3, 7, 9, 12, 16
Section 10.2, problems 1-5, 8, 11, 15, 20, 23, 27, 31
Section 10.3, problems 1-3, 11, 15, 19, 31, 39
Section 10.4, problems 1-5, 9, 15, 27, 30, 31, 35, 39, 41
Section 10.5, problems 7, 11, 21, 27, 31
Section 10.6, problems 1, 2, 9, 11, 14, 15, 17, 19, 25, 29, 32
Section 10.1, problems 15, 17, 23-26, 27, 32

suggested problems from past final exams (mostly involving lines and planes in space):
2015WT1 #1a, b
2013WT2 #1a, b, c
2013WT1 #1a (i, ii)
2012WT1 #1
2011WT2 #1

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

suggested problems from primary text:
Section 12.1, problems 1-6, 7, 11, 17, 19, 21, 23, 26, 27, 29, 31
Section 12.3, problems 1-4, 5, 13, 19, 29, 33
Section 12.4, problems 7, 10, (find equation of tangent plane to z=f(x, y) at given point for 11, 12) , 13, 15, (find linear approximation for 17, 18 at the given point)
Section 12.5, problems 1-5, 9, 17, 21, 29
Section 12.6, problems 1-6, 13, 15, 21, 23, 25, 27
Section 12.7, problems 17, 19, 21, 23
Section 12.8, problems 1-4, 5, 7, 11, 13, 15, 17 (also 11, 13, 15, 19 from 14.7 in secondary text #1)
Section 14.8 (from secondary text #1) 5, 10, 11, 12, 13, 15, 17

suggested problesm from past final exams (mostly involves linear approximation, tangent plane to graphs):
2015 #2 ii
2014 #3
2011WT2 #2a
2011WT2 #2b
2011WT1 #1b, c

suggested problesm from past final exams (mostly involves chain rule and/or implicit diff.):
2015 #3
2014 #2
2013WT2 #2a
2013WT1 #1b(ii, iii)
2013WT1 #1c
2013WT1 #1d
2012WT1 #2, 3
2011WT2 #3
2011WT1 #2

suggested problesm from past final exams (involves gradient vectors and relations to directional derivatives, and level sets):
2015 #1(iii)
2015 #2(i, iii)
2014 #1, 4
2013WT1 #1b(i)
2013WT2 #2 b, c
2013WT1 #1e
2013WT1 #1f
2013WT1 #2

2011WT2 #4
2011WT1 #3

suggested problesm from past final exams (involves classifying local extrema, absolute extrema, Lagrange Multipliers):
2015 #4, 5
2014 #5
2013WT2 #3, 4
2013WT1 #3, 4
2012WT1 #4, 6
2011WT2 #5
2011WT1 #4

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

suggested problems from text:
13.1 PROBLEMS: 7, 9, 19, 21 (also see #3, 5, 10, 13, 15 from section 17.1 secondary text #1)
13.2 PROBLEMS: 1-4, 7, 9, 13, 17, 21, 25 (also see #17, 21, 23 from section 15.1 secondary text #1)
13.3 PROBLEMS: 3, 4, 8, 13, 15
13.4 PROBLEMS: 1, 5, 6, 13, 24
13.6 PROBLEMS: 5, 7, 9, 11, 13, 15, 19, 23
14.4 (from secondary text #2) PROBLEMS: 11, 13, 15, 19, 22, 23

suggested problems from past final exams (double integrals):
2015 #6
2014 #6
2013WT2 #5, 6a
2013WT1 #6
2012WT1 #7,8
2011WT2 #6, 7
2011WT1 #5, 6

suggested problems from past final exams (triple integrals in rectangular, cylindrical and spherical coord):
2015 #7, 8
2014 #8, 9
2013WT2 #7,8
2013WT1 #7, 8, 9
2012WT1 #9,10
2011WT2 #8, 9, 10
2011WT1 #7, 8