## Mathematics 317 (Calculus IV), Winter/Spring 2014

## Lecture times and locations:

- Section 201: Prof. I. Laba, MWF 2:00-2:50, LSK 201 (note that LSK is also known as CSCI)
- Section 202: Prof. E. Au-Yeung, MWF 12:00-12:50, Buchanan A202

## Lecturer: Prof. I. Laba (Section 201)

- Math Bldg 200, (604) 822 4457, ilaba@math.ubc.ca
- Office hours (tentative): Monday 1-2, Wednesday 3-4, Friday 11-12, in MATH 200.

## Lecturer: Prof. E. Au-Yeung (Section 202)

- ESB 4112, (604) 822 8746, enricoauy@math.ubc.ca
- Office hours: TBA

The best way to contact instructors is by email. Please note that email received on evenings and weekends will be answered on the next business day.

If you cannot attend regular office hours due to schedule conflict, please make an appointment in advance. Drop-ins and same-day requests for appointments cannot usually be accommodated.

Prerequisites: One of MATH 200, MATH 226, MATH 253. (MATH 221 is recommended.)

Course web page: http://www.math.ubc.ca/~ilaba/teaching/math317 S2014

Homework assignments will be posted here.

Textbook: J. Stewart, Multivariable calculus, 7th ed., Brooks/Cole 2013, ISBN-13: 978-0-538-49787-9.

**Course outline:** We will be covering advanced topics in multivariable calculus: vector fields, integration on curves and surfaces. Specific topics will include:

- Vector valued functions of one variable (Chapter 13): Parameterized curves, velocity, acceleration, arc length. Includes curvature, normal and binormal vectors, tangential and normal components of acceleration.
- Vector valued functions of several variables (Chapter 16): vector fields, line integrals, conservative fields, fundamental theorem of line integrals, Green's theorem, gradient, curl, divergence, parameterized surfaces, suface area, surface integrals, Stokes' theorem, divergence theorem.

**Your course mark** will be based on homework (10%), two midterm exams (30%), and the final exam (50%). The grades may be **slightly** scaled at the end of the course.

**Examinations:** There will be two in-class 50-minute midterms scheduled on **Wednesdays, February 12 and March 19**, and a 2.5 hour final exam in April. The date of the final examination will be announced by the Registar later in the term. Attendance at the final examination is required, so be careful about making other committments (such as travel) before this date is confirmed. All examinations will be strictly closedbook: no formula sheets, calculators, or other aids will be allowed. **Homeworks:** There will be 5 homework assignments, due tentatively on Fridays, January 17, January 31, February 28, March 14, and March 28. Each homework will be announced and posted here at least a week in advance. The homeworks are to be handed in at the **beginning** of class. If you cannot come to class, you may drop off your homework at your instructor's office prior to the start of class. Late assignments will not be accepted. Solutions will be posted on the course webpage immediately after the lecture. To allow for minor illnesses and other emergencies, the lowest homework score will be dropped.

Academic concession: Missing a midterm, or handing in a homework after the deadline, will result in a mark of 0. Exceptions may be granted in two cases: prior consent of the instructor, or a **documented** medical reason. Your course mark will then be based on your remaining coursework.

Additional course related resources:

• TBA

General links:

- <u>Please read the UBC policy on Student Conduct and Discipline.</u>
- <u>Mathematics Learning Centre</u>: The Math Department runs a drop-in tutorial centre for undergraduate Math courses, staffed by Graduate Teaching Assistants. This centre is located in Rooms 300, 301, and 302 in the Leonard S. Klinck (LSK) Building, and is open Monday through Friday, 9:00am to 7:00pm. Check the website above for any changes to hours and announcements. All tutors provide assistance with first- and second-year calculus and linear algebra and will attempt to help with any undergraduate Math course. In addition to regular assistance, the MLC offers Quick Help for students who are looking for fast support for minor snags. There is no charge for the services MLC provides.
- Past final exam database
- <u>UBC Math Club</u>, located in Math Annex 1119, sells math exam packages (old exams together with solution sets) for a nominal price before each final exam session.

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