Course Outline

Math 317 Calculus IV, 2019 Winter Term 2

Description:
In this course we study the calculus of vector-valued functions of several variables. We will study parametrization, differentiation and integration, length and area on curves and surfaces. We will study vector fields and their operations grad, div, and curl. We will study integral theorems of Green, Gauss, and Stokes for vector fields.

Prerequisite:
One of MATH 200, MATH 226, MATH 253. MATH 221 is recommended.

Text:
1. CLP-4 Vector Calculus Textbook by Feldman and Rechnitzer.
2. CLP-4 Vector Calculus problem book by Yeager, Feldman and Rechnitzer.
Both books are available online at https://www.math.ubc.ca/~CLP/CLP4/

Reference:
1. Calculus by Strang, Chapter 12 and 15, available at
https://ocw.mit.edu/resources/res-18-001-calculus-online-textbook-spring-2005/textbook/
2. Community Calculus, Chapter 13 and 16, available at
https://www.whitman.edu/mathematics/calculus_online/

Homework:
There will be weekly homework assignments, usually due on Wednesdays. A pdf file of your homework must be uploaded to Canvas. You can either typeset your homework or scan your handwritten work. Late homework will not be accepted. A selection of homework problems will be marked. Messy and illegible homework will not be marked. Lowest mark will be dropped at the end of the semester.

Exams:
Midterm exams: There will be two in-class midterm exams, (tentatively) on Feb 5th and March 11th.
Final exam: TBD.

Grading Scheme:
You will receive the maximum total grade calculated from the following two schemes;
Scheme 1. Homework: 10%, Midterms: 40%, Final: 50%.
Scheme 2. Homework: 10%, Midterms: 30%, Final: 60%.

I may choose to increase your final grade up to 2 points based on your class participation. I reserve the right to lower your final grade up to 5 points if you habitually disrupted the learning of other classmates.

Additional Course Policies:
1. Be respectful to learning of other classmates. Using cell-phone and laptop are prohibited during lectures.

2. Bring pens and papers; you may be working on practice problems during lectures.

3. There will be no make-up exams. Permission to move the weight of the missed exam to the final exam will be given only in the following circumstances; documented absence (e.g. out-of-town varsity athletic commitment with a letter from a coach) on the scheduled date and notification to the instructor of absence due to a medical condition with a doctor's note on the inability to write an exam.

4. Academic integrity: copying of another student's work is a serious breach of academic integrity and may result in an academic sanction.

5. No unauthorized devices will be allowed during any quiz or examination. This includes cell phones, smart phones, music players, and all other devices.

Instructor:

Jongchon Kim, Email: jkim at math.ubc.ca, Office: ESB 4108

Office hours: By appointments on the following time slots:

Tuesday 11:00-12:30 at LSK 300B, Wednesday 15:00-16:30 at MATX 1102.

Resources:

1. Math department past exams: http://www.math.ubc.ca/Ugrad/pastExams/index.shtml

2. Math Learning Centre: The MLC is a space for undergraduate students to study math together, with friendly support from tutors, who are graduate and undergraduate students in the math department. For additional information please visit the website http://www.math.ubc.ca/~MLC/