Announcements:

- **Registration issues**: In the Mathematics department, course instructors do not have the authority to enroll students in courses or sign any forms related to registration. For all registration issues or concerns, please contact the Mathematics Undergraduate Chair, Prof. Mark Mac Lean, at ugradchair@math.ubc.ca .
- **Canvas, WebWork, etc.**: these pages will be published at the start of the semester.

Mathematics 227 (Honours Advanced Calculus II), Winter/Spring 2019

Section 101: MWF 12:00-12:50, MATH 102

Instructor: Prof. I. Laba

- Math Bldg 200, (604) 822 4457, ilaba@math.ubc.ca
- Office hours (tentative): Mon 11-12, Wed 1-1:30. Fri 1-2, in MATH 200.
- The best way to contact the instructor 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 always be accommodated.

Prerequisites: A score of 68% or higher in MATH 226.

Textbook: Robert A. Adams and Christopher Essex, Calculus: Several Variables (or Calculus: A Complete Course), 9th ed. Pearson, ISBN 9780134579788. (Older editions can also be used.)

Course topics:

- **Vector-valued functions and curves (Chapter 11)**: curves, velocity, acceleration, arc length, curvature, tangent, normal, binormal.
- **Vector fields and line integrals (Sections 15.1-15.4):** vector fields, field lines, conservative fields, line integrals.
- **Surface integrals (Sections 15.5-15.6):** surfaces, surface area, flux integrals.
- **Integral theorems (Chapter 16):** gradient, divergence and curl, vector identities, divergence theorem, Green's theorem, Stokes' theorem, applications.
- **Differential forms (Chapter 17):** differential forms, exterior derivative, generalized Stokes' Theorem (if time permits).

The main topics of the course are more or less fixed as above, but the details may vary from year to year. Details will be posted regularly on a separate page.

Your course mark will be based on WebWork (10%), written homework assignments (15%), midterm exam (25%), and the final exam (50%). The grades may be **slightly** scaled at the end of the course.

- **Examinations:** There will be one in-class 50-minute midterm, scheduled on Wednesday, February 13. 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. All examinations will be strictly closed-book: no formula sheets, calculators, electronic devices, or other aids will be allowed. **Attendance at the final examination is required, so please do not make**

other commitments (such as travel) before this date is confirmed.

- **WebWork:** WebWork problem sets will be assigned weekly. In order for your grades to be recorded properly, you have to access problem sets through Canvas. To allow for minor illnesses, technical difficulties with WebWork, etc., the WebWork part of your grade will be 110% of your total WebWork score[*], so that you can mis s almost 10% of WebWork and still get full credit. ([*]If this is more than 10 points, your WebWork score will be 10.)

- **Written homework assignments:** tentatively, there will be 4 assignments, due on Wednesdays, January 16, January 30, March 6, and March 20. These problem sets will have only 3-4 questions, but that will include proofs, and you will be graded both on the correctness of your mathematics and on the quality of your mathematical writing. For full credit, you will need to present complete and well written explanations; the correct answer alone will **not** be sufficient. Mathematical writing, and especially proof writing, will be addressed explicitly in class . Each assignment will be posted at least a week in advance. The assignments are to be handed in at the **beginning** of class. If you cannot come to class, you may drop off your homework in MATH 200 before it is due. Late assignments will not be accepted. To allow for minor illnesses and other emergencies, the lowest homework score will be dropped.

Academic concession: Missing the 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 links and resources:

- [Please read the UBC policy on Student Conduct and Discipline.](#)
- [Mathematics Learning Centre](#): The Math Learning Centre (or MLC for short) is a space for undergraduate students to study math together, with support from tutors who are graduate and undergraduate students in the math department. Please note that while students are encouraged to seek help with homework, the MLC is not a place to check answers or receive solutions, rather, our aim is to aid students in becoming better learners and to develop critical thinking in a mathematical setting. The MLC is located in Rooms 301 and 302 in the Leonard S. Klinck (LSK) Building, and is open Monday through Friday, 11:00am to 5:00pm. Check the website above for any changes to hours and announcements.
- [Past final exam database, maintained by the Mathematics department.](#)
- [UBC Math Club](#), 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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