

Mathematics 220, Section 102, Term I, 2014-15

Instructor: Jingyi Chen

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Prerequisites

- a score of 64% or higher in one of MATH 101, MATH 103, MATH 105, SCIE 001, or
- one of MATH 121, MATH 200, MATH 217, MATH 253, MATH 263.

Lecture: MWF 12:00-13:00, Room 200, Leonard S. Klinck Building

Topics: The main aim of the course is to learn how write clear and correct mathematical proofs. It provides the gateway to more advanced mathematics. More precisely, we will cover

- Sets — definitions, set operations
- Logic — logical connectives, quantifiers
- Proofs — direct and contrapositive
- Proofs - existence and contradiction
- Induction
- Equivalence relations
- Functions - injective, surjective, bijective, inverses and compositions.
- Cardinality of sets - finite sets and different types of infinite sets.
- Elementary real analysis - limits of sequences and series. Also supplement this with extra material on supremums.

Text: Gary Chartrand, Albert D. Polimeni and Ping Zhang: Mathematical Proofs - A Transition to Advanced Mathematics (3rd Edition).

Grade Policy: Better result of the following

- (a) 10% homework + 20% 1st midterm + 20% 2nd midterm + 50% final exam
- (b) 10% homework + 15% 1st midterm + 15% 2nd midterm + 60% final exam

Exams: There will be two 50 minutes midterm exams which are in class and closed book. The 1st one will be on October 6, Monday and the 2nd one will be on November 14, Friday. No make-up midterm exam will be given. The date of the final examination will be announced by the Registrar later in the term.

Homework: Assignment will be posted weekly at <http://www.math.ubc.ca/~jychen>. Problem set will be collected on each Friday (except the Friday in the first week). Late homework will not be accepted. Copying solutions from another student, from the web or from any other source, and turning them in as your own is a violation of the Academic Code.

Policy on missed assignments and the midterm exam: Students who are unable to hand in a homework due to a medical or equivalent excuse may have that homework not count towards their final grade. Missing a midterm exam or a homework normally results in a mark of zero. Exceptions are granted only with prior consent of the instructor or due to a medical emergency. In the latter case, the instructor must be notified within two working days of the missed exam and presented with a doctor's note immediately upon the students return to UBC. If an exception is granted for a missed test, the final exam will be used to make up that portion of the grade.