

Math 220 - Summer Term 1 2017

Instructor: Prof. Mahta Khosravi

Office: MATH 219

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Office Hours: TRF 12:00pm - 12:30pm (MATH 219)

or make an appointment by e-mail.

Text: Gary Chartrand, Albert D. Polimeni and Ping Zhang: *Mathematical Proofs - A Transition to Advanced Mathematics (Third Edition)*. Pearson / Addison Wesley, 2013. ISBN 978-0321797094

Prerequisites: You must have either 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. If you do not have these prerequisites then you must see your lecturer as soon as possible.

Exams: There will be one 100 minute Midterm Exam which is in class and closed book, tentatively on June 2nd. No make-up midterm exam will be given. The date of the final examination will be announced later in the term by the Registrar's office.

Course Outline:

The main aim of the course is to learn how write clear and correct mathematical proofs. It provides the gateway to more advanced mathematics. A little more precisely (though this is provisional) we cover subjects from:

- 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, concept of supremums.

Grading Policy: 10% homework + 10% Weekly Quizzes + 30% midterm + 50% final 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.