

## Math 1272 Course Outline

Winter 2018

**Instructor:** A. Dean , RB 2009, ext 8689. email: andrew.j.dean@lakeheadu.ca

**Office Hours:** Fridays 2:30-4:00 or by appointment or happenstance.

**Text:** *Mathematical Proofs, a Transition to Advanced Mathematics*, G. Chartrand, A. Polimeni, and P. Zhang, 4th edition, Pearson Education, Boston.

### Schedule

Week 1. (January 8 ) Introduction and basic set theory.

Week 2. (January 15) Logical connectives, truth tables, and quantifiers.

Week 3. (January 22) Direct proofs and proofs by contrapositive.

Week 4. (January 29) Further examples of direct proofs and proofs by contrapositive.

#### Test # 1 on Friday February 2

Week 5. (February 5) Existence proofs and proofs by contradiction.

Week 6. (February 12) Mathematical induction.

#### Study Week February 19-23

Week 7. (February 26) More on induction.

#### Test # 2 on Friday March 2

Week 8. (March 5) Relations.

Week 9. (March 12) Functions.

Week 10. (March 19) Cardinality.

#### Test # 3 on Friday March 23

Week 11. (March 26) More on set theory.

Week 12. (April 2, April 9) More on set theory and examples.

**Grading Scheme:** There will be three term tests worth 15% each. The homework will count for 15%, and the final exam will be worth 40%.

**Homework:** Each week, a homework assignment will be circulated by email. They will be due at 4pm on Friday afternoons, unless otherwise announced in class. There will be a box for these on the second floor of the Ryan Building. Shortly after 4pm on Fridays, the mailbox will be emptied, and it will not be examined again until the next week. Late assignments will not be accepted. Solutions to the problems will be distributed by email.

**Term Tests and Final Exam:** The three term tests will be held during the lab hour in the lab room (the dates are on the schedule). They will be **closed book** with **no calculators or other aids allowed**. The material the tests will cover will be announced

in class as the dates draw near. **The final exam will also be closed book with no calculators, cell phones, or other aids allowed.** The final exam will cover the whole course.

**Marking Disputes:** If you feel you have been treated unfairly in the marking of a test or assignment, **put your complaint in writing on the front of the paper and return it to the instructor.** Do not put it back in the assignment box.

**Drop Date:** The final date to withdraw from this course without academic penalty is Friday March 9.

**Special Exams:** Students who fail this course but attain a mark of 40% may be entitled to write a special exam. See the calendar for details.

**Academic Dishonesty:** All cases of academic dishonesty will be dealt with according to the university's Code of Student Behaviour and Disciplinary Procedures, copies of which are available from the registrar.

**Accommodations:** Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please visit: <http://studentaccessibility.lakeheadu.ca>