

**OUTLINE OF MATH 426,  
INTRODUCTION TO TOPOLOGY  
FIRST WINTER TERM, 2016–2017**

1. CONTACT INFORMATION

The instructor for this course is me, Ben Williams. I may be reached at [tbjw@math.ubc.ca](mailto:tbjw@math.ubc.ca).  
The course website is <http://www.math.ubc.ca/~tbjw/426/index.html>.

OFFICE HOURS:

Office hours may also be held by appointment.

2. MEETING TIMES

The course meets Mondays, Wednesdays and Fridays at 10am in MATX 1102

3. TEXTBOOK

The textbook for this course is Munkres' *Topology: A First Course*. This may be supplemented by class notes.

4. HOMEWORK

Homework will be assigned throughout the course, at a rate of approximately one assignment every two weeks. The first assignment will be due on Friday 15 September, in class.

5. EXAMS

There will be an in-class midterm, provisionally on Wednesday 18 October. This date is subject to change. There will be a final exam.

6. OVERALL COURSE GRADE

The overall course grade will be assigned based on homework (25%) and exams (25% for the midterm, 50% for the final).

## 7. LIST OF TOPICS

The following is a provisional list of topics that will be covered.

- Metric spaces and continuous functions between them
- Topological spaces and continuous functions between them
- Elementary category theory
- Induced topologies
- Separation axioms
- Sequences in metric spaces
- Connectivity properties
- Compactness properties
- Urysohn's Lemma and corollaries
- The Baire category theorem
- Topologies on mapping spaces
- Basic homotopy theory
- The fundamental group
- Covering spaces