MATH 427 & 527, SECOND WINTER TERM, 2017-2018

1. CONTACT INFORMATION

The instructor for this course is me, Ben Williams. I may be reached at `tbjw@math.ubc.ca`.
The course website is `http://www.math.ubc.ca/~tbjw/527/index.html`.

OFFICE HOURS:

By appointment, in MATX 1203.

2. MEETING TIMES

The course meets Mondays, Wednesdays and Fridays at 10 in MATH 105.

3. TEXTBOOK

The textbook for this course is *Algebraic Topology* by A. Hatcher. A free online pdf version is available.

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 12 January, in class.

5. EXAMS

Two take-home exams will be assigned, one about halfway through the course, the other close to the end. These will take the place of homework assignments. Collaboration will not be permitted on the take-home exams.

6. OVERALL COURSE GRADE

The overall course grade will be assigned based on homework and exams. The take-home midterm and the take-home final will each be worth 24% of the overall grad, and the other homework assignments collectively will be worth 52%. Marks may be adjusted up or down based on the overall difficulty of the assignments, and these adjustments may be made independently for Math 426 and Math 526.

7. LIST OF TOPICS

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

(1) Review of the fundamental group.
(2) Covering spaces and universal covers.
(3) Basic category theory.
(4) The van Kampen Theorem.
(5) CW complexes.
(6) Cellular Homology
(7) Singular Homology.
(8) The Künneth theorem.
(9) Universal coefficients for homology.
(10) Cohomology.
(11) Universal coefficients for cohomology.

If time permits, other topics may be covered.