

MAT 762 – Algebraic Topology

Instructor: Stephan Wehrli, 304B Carnegie, smwehrli@syr.edu

The course will cover parts of Chapter 4 and 5 of the textbook, as well as additional topics depending on time and interest.

After a brief review of MAT 761, we will discuss the following material:

- Cohomology of a Chain Complex and Universal Coefficient Theorem
- Singular Cohomology and Cup Product
- Orientations and Homology
- Poincar Duality and Intersection Product
- Applications of Cohomology
- Higher Homotopy Groups
- Additional Topics (e.g. Obstruction Theory, Fiber Bundles, Spectral Sequences, Characteristic Classes, De Rham Cohomology, Sheaf Theory, Knot Theory)

More information can be found below:

- **Text:** Allen Hatcher, *Algebraic Topology*, Cambridge University Press, 2001. Electronic Version available at <http://www.math.cornell.edu/hatcher/AT/ATpage.html>
- **Classes:** Tu and Th, 3:30 - 4:50, 233 Physics Building
- **Office Hours:** TBA
- **Academic Integrity:** See Syracuse University's Academic Integrity Policy at <http://academicintegrity.syr.edu/>
- **Students with Disabilities:** If you believe you need an accommodation for a disability, please talk to me at the beginning of the semester or contact the Office of Disability Services (ODS), located in Suite 303 of 804 University Avenue, or call (315) 443-4498
- **Religious Observances Notification:** Students who will be observing religious holidays during the semester are required to fill out their notification form on MySlice by the end of the second week of classes.

Course Webpage: <https://smwehrli.expressions.syr.edu/teaching/mat-762-fall-2014/>