

MATH 960/961
ALGEBRAIC TOPOLOGY

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Course meets: TuTh 10:20-11:40, A-222 Wells Hall
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C-335 Wells Hall (353-7997)

This will be a year long course in Algebraic Topology in the coming academic year. I hope to cover most of the basic important things one needs in Geometry-Topology research. Topics will be chosen from: Bundles, cohomology operations, characteristic classes, spectral sequences, Atiyah-Singer theorem, K-theory (e.g. every S^n parallelizable only when $n = 1, 3, 7$). Postnikov towers (useful device calculating some higher homotopy groups of spheres), exotic smooth structures, handlebodies and knots. In recent times these topics have become standard tools not just for topologists, but also differential and algebraic geometers. Please enroll if you can.

- “Algebraic Topology Allen Hatcher ISBN-10:0521535379
- “Homotopic Topology A.T. Fomenko, D.B. Fuks, V.L Gutenmacher ISBN-13: 978-9630535441
- “Topology and Geometry (Grad Text in Math) G.E. Bredon ISBN-13: 978-0387979267
- “Cohomology Operations and Applications in Homotopy Theory” (Dover Books on Mathematics) by R. E. Moshier , M. C. Tangora ISBN-13: 978-0-486-4666-4
- “Differential forms in algebraic topology” by R. Bott, L. W. Tu (Springer) ISBN 3-540-90613-4
- ”Characteristic classes” by J. Milnor, J. D. Stasheff, Princeton university press (AM-76) (1974) ISBN: 9780691081229.

Doing homeworks and presenting a paper will help you understand the material.

Important dates for Fall 2015:

- Wednesday 09/02/2015 Classes Begin.
- Monday 09/07/2015 Labor Day University closed
- Wednesday 09/09/2015 Online open add period for fall semester ends at 8pm.
- Wednesday 09/16/2015 Last day to late add a course
- Monday 09/28/2015 End of 100
- Wednesday 10/21/2015 Middle of Semester.
Last day to drop a course without a grade being reported.
- Thursday 11/26/2015 to Friday 11/27/2015 Thanksgiving Break
- Friday 12/11/2015 Last day of classes.