

Math M421 — Introduction to Topology
Spring 2005
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Course Syllabus

Instructor: Dr. Markus Pomper, Assistant Professor
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Office Hours: MW 9:30 - 11:00 am
TR 1:00-4:00 pm
and by appointment.
Meeting Time: MW 2:00 - 3:15 pm
Meeting Place: 119 Whitewater Hall

I promise to be in my office during these scheduled office hours. However, you may ask me at any time to help you with class work.

Textbook: Sheldon W. Davis, *Topology*, McGraw Hill, 2005.

Class Notes: Your class notes will be an important tool for studying. I suggest that you collect your notes, graded homework assignments, and all handouts in a three-ring binder with suitable subdivisions. A multi-subject notebook is not suitable.

Prerequisite: The prerequisite for this course is Calculus III (Math M311). A course in Real Analysis (Math M413) is recommended, but not required.

Course Objectives: The purpose of this course is to familiarize you with concepts of point set topology and with proof techniques in this area. You will:

- Become familiar with the concepts of open, closed and compact sets in metric spaces and in general topological spaces;
- Understand which topological properties are preserved by in products, quotients and subspaces of topological spaces;
- Be familiar with the separation axioms and their consequences;
- Study connected spaces, pathwise connected spaces, and locally connected spaces;
- Obtain a basic understanding of homotopy and continua.

Emphasis on Campus Learning Objectives

The faculty at Indiana University East has identified eight campus learning objectives. We will put special emphasis on the following:

- *Educated persons should have achieved depth some field of knowledge. A sequential accumulation of knowledge and skills in an academic discipline is essential for a focused personal and professional development.*
- *Educated persons should be able to express themselves clearly, completely and accurately. Effective communication entails sharing ideas through a variety of techniques, including reading, writing, speaking and technology.*

Grades: The final grade is based on your scores in homework, study summaries, class participation and discovery projects. Your scores will be weighted as follows:

Homework	30 %
Study Summaries	20 %
Discovery Projects	30 %
Class Participation	20 %

I may add a bonus of up to 3 % to your final course grade. Reasons for giving such a bonus include: Extraordinary class participation, willingness to learn from mistakes, and interest for the subject matter beyond the immediate scope of the course.