Math 400 Topology Block 6 2009-10

Text: Introduction to Topology: Pure and Applied, by Adams and Franzosa

Instructor: Tinsley

Office: Tutt 206G and the classroom

Class Meetings: Daily at 9:15 am in the classroom

Problem sessions: Tuesday and Thursday at 1:30 PM in the classroom

Grades: I will base these on homework, oral presentations, F&F solutions, exam(s), and a final project. I will give more details in class.

Honor Code: I will explain its application in each instance.

Syllabus (Week 1):

Date	Topic	Sections	Events
M	Introduction, general topological spaces	All of 0; 1.1	
T	More about topological spaces	1.2-1.3	PM Problem Session
W	Applications	1.4, Handout	
R	Interior, closure, and boundary	2.1-2.3	PM Problem Session
F	New topological spaces from old	3.1-3.2	
M	The Quotient Topology/Decompositions	3.3-3.4	* Problems Due at 9:30 am
T	Functions and Continuity	3.4; 4.1-4.2	PM Problem Session
W	Project Presentations		No homework due
R	Embeddings, coverings and liftings	4.2; 6.1	PM Problem Session
F	Connectedness	6.1-6.2; Handout	
M	Intermediate value thm; path-connectedness	6.3-6.4	
T	Midterm exam over Ch 0 – 6		
W	Compactness; Extreme value theorems	7.1-7.3	
R	Limit points and compactifications	7.4-7.5	PM Problems Session
F	TBA		
M	TBA		
T	TBA		
W	Final from Hades		

"topology (topo- (from Greek topos place)+ -logy) 1. Topographical study of a particular place. 2. Anat. The anatomy of a particular region of the body. 3. Math. The doctrine of those properties of a figure unaffected by deformation without tearing or joining."

Webster

"Point set topology is a disease from which later generations will regard themselves as having recovered."

Henri Poincare

"For some time now, topology has been firmly established as one of the basic disciplines of pure mathematics. Its ideas and methods have transformed large parts of geometry and analysis almost beyond recognition. It has also greatly stimulated the growth of abstract algebra. As things stand today, much of modern pure mathematics must remain a closed book to the person who does not acquire a working knowledge of a least the elements of topology."

George Simmons

“A topologist is a person who doesn’t know the difference between a coffee cup and a doughnut.”

Anonymous

“A topologist is a person who removes a vest without removing the suitcoat.”

Anonymous

“Topology is a relatively new branch of mathematics. Those who took training in mathematics 75 years ago did not have the opportunity to take a course in topology at many schools. Others had the opportunity, but passed it by, thinking topology was one of those ‘new-fangled’ things that was not here to stay. In that respect, it was like the automobile.

One who is introduced to topology through popular lectures and entertaining articles may get the impression that topology is recreational mathematics. If he or she were to take a course in topology, expecting it to consist of cutting out pretty figures and stretching rubber sheets, he or she would be in for a rude awakening. If he or she pursued the subject further, however, he or she might be delighted to find that it is rich in substance and beauty.”

R. H. Bing

The nuts and bolts:

“Working problems is a crucial part of mathematics. No one can learn topology merely by poring over the definitions, theorems, and examples that are worked out in the text. You must work part of it out for yourself.

“Another important part of mastering any mathematical subject is acquiring a repertoire of useful examples. One should, of course, come to know those major examples from whose study the theory itself derives, and to which the important applications are made.”

J. R. Munkres

“A student learns best who is told least.”

R. L. Moore