Topology—Spring 2013

Course Prefix/Number: MTG 6990 - 2027 (In class), MAA 6990 - 2507 (online)
Course Title: Topology
Course Credit Hours: 3

Instructor Information: Dr. Lori Alvin
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Classroom Information: Mondays & Wednesdays 6:00-7:15 pm
Building 4 / Room 210
Office Hours: Mondays/Wednesdays 3:45 - 6:00 pm
Thursday 12:00 - 1:30 pm

Prerequisites or Co-Requisites: Mathematical maturity, including the ability to read and accurately write proofs, is expected.


Special Technology Utilized by Students: This course will use e-learning and the ELLUMINATE software. Students are responsible for all material posted on e-learning, including announcements, assignments, and any other coursework. Calculators are permitted in class on all homework and tests, unless otherwise stated, but full work must be shown and answers must be justified. See below for more information on ELLUMINATE.

Course Description: Topics covered will include: basic set theory and logic, topological spaces, open and closed sets, continuous functions, connectedness, compactness, Lebesgue Covering Lemma, countability, separation.

This course will be highly theoretical and is thus heavily proof oriented. Students will be expected to write original proofs and should enter this course solidly comfortable with their proof-writing skills.

Student Learning Outcomes: At the conclusion of the course, students will be able to

- Understand fundamental concepts of set theory and logic.
- Construct a topology on a set in order to make it into a topological space.
- Understand the concept of a continuous function as a natural generalization of the corresponding idea from Euclidean space.
- Generalize important theorems and concept from the study of calculus into the language of topological spaces.
- Explain the similarities and differences between various types of compactness.
- Demonstrate knowledge of concepts that do not arise naturally from the study of calculus or analysis, but instead arise from a deeper understanding of topology.
Topics Covered:

- Set Theory and Logic, selected topics (Chapter 1)
- Topological Spaces (Chapter 2)
- Continuous Functions (Chapter 2)
- Connectedness (Chapter 3)
- Compactness (Chapter 3)
- Countability and Separation, selected topics (Chapter 4)

Grading/Evaluation: There will be two tests each worth 20% of your overall grade, a final exam worth 30% of your overall grade, and weekly homework worth 30% of your overall grade.

Policy on Late/Missing Work: As all test dates are set in advance, you should not miss them; no make-ups will be given for missed tests. Late homework will not be accepted under any circumstances.

Homework: Homework problems will be assigned weekly to be turned in by Thursday at 5pm Central Time. Problems should be discussed on the discussion boards on e-learning, however full solutions should not be posted there. Any questions about course content should be posted on e-learning for class discussion; I will monitor the boards regularly. Homework must be submitted satisfying the standards outlined in the Homework Requirement handout.

Tentative Schedule:
Test dates are scheduled as follows, and each test is proctored: The tests are scheduled for Feb 13, Mar 27, and Apr 29. The final exam period for this course is Monday, April 29 from 6-8:30pm.

Class Expectations:
I strongly recommend you do not miss class. Mathematics is a subject that requires explanation, discussion, and working problems for a mastery of the material; this cannot be achieved through reading the textbook alone. Missing class means missing out on important opportunities for interacting within the classroom. You are responsible for all material covered during each class session. Frequent absences will not be tolerated; in order to qualify for a C in the course, you must attend at least 80% of the classes (either in person or online). If you are unable to attend a class live, please talk with me in advance.

Please adhere to the following class policies:
1. Please do not walk into class or walk out of class while class is in session.
2. Please do not speak while I am speaking.
3. Please no eating while class is in progress.
4. Please pay attention during class: no sleeping, reading books or other materials for other classes, or using mobile devices.

5. Please silence (or use Airplane Mode) cell phones at the start of class—setting on vibrate does not count.

6. Absolutely no texting during class!

**ELLUMINATE:**
For students enrolled from remote locations this course has an online section that uses ELLUMINATE as the platform for instruction. The medium provides real-time instruction/communication, full two-way audio, and live display of writing on the “white board.” Students who enroll for the online section should contact the Mathematics and Statistics Department (474-2276) for a demonstration of ELLUMINATE so that they will be properly set up BEFORE classes commence.

Even though the section is described as “online”, students enrolled in this section must attend the class by logging on from the remote location *at the same time as the class in session.* This will allow students to actively participate in the class proceedings (i.e., ask and answer questions, give feedback, etc.)

There will be three proctored exams. Students in the on-site section (face-to-face section) will do the exams in class. **Online students must arrange (with instructor’s approval) a suitable site to take the tests on the same date in a proctored setting.** There is a form that must be filed. You will use option 4 on this site. For instructions see: http://onlinecampus.uwf.edu/class/proc_exams.cfm.

**Withdrawal Deadlines:**
Withdrawal deadline for all courses for the term with a partial refund and grade of WR: **Feb 1**
Withdrawal deadline for individual or all courses for the term with an automatic W: **Mar 22**
Withdrawal deadline for all courses for the term and grade of W or WF (instructor discretion): **Apr 26**

Students requesting a late withdrawal from class must have the approval of the advisor, instructor, and department chairperson (in that order), and finally by the Academic Appeals committee. Requests for late withdraws may be approved only for the following reasons (which must be documented):

1. A death in the immediate family.
2. Serious illness of the student or an immediate family member.
3. A situation deemed similar to categories 1 and 2 by all in the approval process.
4. Withdrawal due to Military Service (Florida Statute 1004.07).
5. National Guard Troops Ordered into Active Service (Florida Statute 250.482).

Requests without documentation will not be accepted. Requests for a late withdrawal simply for not succeeding in a course does not meet the criteria above and will not be approved.

**Expectations for Academic Conduct/Plagiarism Policy:**
As members of the University of West Florida, we commit ourselves to honesty. As we strive
for excellence in performance, integrity—personal and institutional—is our most precious asset. Honesty in our academic work is vital, and we will not knowingly act in ways which erode that integrity. Accordingly, we pledge not to cheat, nor to tolerate cheating, nor to plagiarize the work of others. We pledge to share community resources in ways that are responsible and that comply with established policies of fairness. Cooperation and competition are means to high achievement and are encouraged. Indeed, cooperation is expected unless our directive is to individual performance. We will compete constructively and professionally for the purpose of stimulating high performance standards. Finally, we accept adherence to this set of expectations for academic conduct as a condition of membership in the UWF academic community.

Assistance:
The Student Disability Resource Center (SDRC) at the University of West Florida supports an inclusive learning environment for all students. If there are aspects of the instruction or design of this course that hinder your full participation, such as time-limited exams, inaccessible web content, or the use of non-captioned videos and podcasts, please notify the instructor and the SDRC as soon as possible. You may contact the SDRC office by e-mail at sdrc@uwf.edu or by phone at (850) 474-2387. Appropriate academic accommodations will be determined based on the documented needs of the individual.

Weather Emergency Information:
In the case of severe weather or other emergency, the campus might be closed and classes canceled. Official closures and delays are announced on the UWF website and broadcast on WUWF-FM.

- WUWF-FM (88.1MHz) is the official information source for the university. Any pertinent information regarding closings, cancellations, and the re-opening of campus will be broadcast
- In the event that hurricane preparation procedures are initiated, the UWF Home Web Page and Argus will both provide current information regarding hurricane preparation procedures, the status of classes and the closing of the university.

Emergency plans for the University of West Florida related to inclement weather are available on the following UWF web pages:

Information on Hurricane Preparedness plans: http://ufemergency.org/hurricaneprep.cfm

Information on other emergency procedures: http://ufemergency.org

Any changes to this syllabus will be announced in class and posted on elearning.