MATH 522 Section 01S, 41R, and 71R   BA 244 1 – 4:50 MW
Instructor: Dr. Charles Dorsett   Office: Bin-318
Office hours: 9 – 10 M - R, and by appointment   Office telephone: 886-5955

Textbook: None. The class will be taught using a "modified Texas Method".

Prerequisites: Graduate standing with background in mathematics, including theorem proving classes, Math 440, and/or consent of the instructor.

Topics to be covered: Introductory point set topology, topological operators, subspaces, continuity, classical separation axioms, connectedness, convergence, covering properties, and product spaces as time permits.

Student Learning Outcomes:
1. The students will have working knowledge of the mathematical language used in the study of advanced mathematics. Topological operators such as the interior operator, the closure operator, and the frontier operator that are used in advanced mathematics will be known, familiar quantities to the successful students giving the students the knowledge and communication skills to move forward in the study of mathematics.
2. The students will be knowledgeable of the uniform classifications used in the study of mathematics. The students will be introduced to and have knowledge of many mathematical properties studied in advanced mathematics, such as separation axioms, convergence, covering properties, and continuity, along with the classification system used in the study of the many properties giving the students prerequisite knowledge required for continued study in mathematics.
3. The students will see and understand the connection and transition between previously studied mathematics and more advanced mathematics. The students will actively participate in the transition of important concepts such as open, closed, and continuity from calculus to more advanced mathematics.
4. The students will gain experience and confidence in proving theorems. A variation of the Texas Method of Teaching will be used in the class requiring the students to prove theorems give the student the experience, knowledge, and confidence to move forward in the study of mathematics.

Additional Graduate Requirements:
1. Each of graduate students will select a person or important contribution in the development of topology since 1890, with instructor approval, and share their research in their chosen topic with both a paper to the teacher and a presentation to the class.
2. Graduate students will be able to give examples of a specific separation axiom, and use separation axioms to prove topological properties.
3. Graduate students will begin to explore research in topology, and be introduced with research papers published by the instructor. They will consider a topic suitable for Math 595.

Grading policy: In the class 85% of the grade will be determined by your classroom participation. During the class you will be given hand-outs containing definitions, problems, and theorems for which you are to provide solutions and proofs. The requirement is that you present your solutions to the problems and proofs of the theorems during class time in a timely fashion. A record of classroom participation will be kept and used to determine the appropriate part of the 85% for each student. In addition, each student will select a topic from the history of topology from the 1890s to now and write a research, non-internet paper to be handed-in and present to the class. Each topic must be different so select the topic quickly and obtain permission to move forward with the paper.

ADA Statement: The Americans with Disabilities Act (ADA) is a Federal anti-discrimination statue that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodations of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
GEE Library – Room 132
Phone: (903) 886 – 5150 or (903) 886 – 5835
Fax: (903) 468 – 8148
StudentDisabilityServices@tamuc.edu

Student Conduct: Attendance and participation in classroom activities are expected. According to the Student's Guide Handbook, Policies and Procedures, Conduct, all students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment.

Let's all work hard and have a happy, productive semester.