MTH 522-General Topology I
Course Syllabus: Summer I-2016

INSTRUCTOR INFORMATION

Instructor: Padmapani Seneviratne, Ph.D.   **Office:** BIN 316
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Office Hours: TBA
Virtual office hours(skype): tamuc_math : TBA

COURSE INFORMATION

Class Schedule: MW: 01:00 – 4:50 pm

Location: BA 224

Textbook: Introduction to Topology: Pure and Applied, Adams & Franzosa, Pearson-Prentice Hall, ISBN 9780131848696

Additional Reading: Topology 2nd edition, James Munkres, Pearson publishing, ISBN-13: 9780131816299

Course Description (Catalogue):

Three semester hours Ordinals and cardinals, topological spaces, identification topology, convexity, separation axioms, covering axioms

Prerequisite: MATH 440 or consent of the instructor.

Topics to be covered:

- Introduction: Sets and operations, Euclidean space, relations, functions.
- Topological spaces: Open and closed sets, basis for a topology; examples of topologies in applications (digital topology for digital displays, phenotype spaces in biology and neural networks, etc).
- Interior, closure and boundary: applications to geographic information systems
- Creating new topological spaces: Subspace topology, product topology, quotient spaces; applications to configuration spaces, robotics and phase spaces.
- Continuous functions and homemorphisms; applications to motion planning in robotics.
- Metric spaces and metrizability of topological spaces; separation axioms.

Student Learning Outcomes: Upon successful completion of this course students will:
- Understand terms, definitions and theorems related to topology.
- Demonstrate knowledge and understanding of concepts such as open and closed sets, interior, closure and boundary.
- Create new topological spaces by using subspace, product and quotient topologies.
- Use continuous functions and homeomorphisms to understand structure of topological spaces.
- Demonstrate knowledge and understanding of metric spaces.
- Apply theoretical concepts in topology to understand real world applications.

COURSE REQUIREMENTS

Attendance:
It is expected that you attend classes daily.

Exams: There will be 2 exams for this course.

Make-up Policy:
No late tests will be given. If you miss a test, the final will be used to replace that score.

Project: Students will write a written report and present to class about an influential mathematician who contributed to the development of topology.

In class activities:

In the class 40% of the grade will be determined by student participation in the classroom activities. You will be required to solve problems, write proofs and do home work. Further 10% of the grade will be for the project and the presentation.

COURSE GRADES

Grading policy: The course grade consists of

In class activities:	40%
Project/presentation:	10%
Test 1:	25%
Test 2:	25%

Total:	100%

Grading Scale:

A: 90 – 100%, B: 80 – 89%, C: 70 – 79%, D:60 – 69%, F: 0 – 59%

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Withdrawal Policy:
Concerning the deadlines and consequences of withdrawals please check on:
https://ems.tamuc.edu/MasterCalendar/MasterCalendar.aspx

Academic Integrity:
Texas A&M University –Commerce has explicit rules and regulations governing academic dishonesty and academic misconduct. These policies are stated in details in the student's Guide Handbook. Each students is expected to read this document and abide by the contained polices. These university polices will be followed in class. The minimum penalty an act of academic dishonesty will be a grade of 0 on the examination or homework assignments.

University Specific Procedures

Students with Disabilities
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute 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 accommodation 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

Nondiscrimination Statement

A&M-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook).*