Fall 2023 Texas A & M-Commerce
MTE 540.01W – Foundation of Topology

This is the syllabus for the web based course MTE 540, Section 01W for Fall 2023. Please read it carefully. You will be responsible for all information given in the syllabus, and for any modification to it that may be announced during the semester.

Instructor: Dr. Yelin Ou
  Office: Binnion Hall 313.
  Phone: (903) 886-5949
  Fax: (903) 886-5945
  E-mail: yelin.ou@tamuc.edu
  Webpage: http://faculty.tamuc.edu/you/
Office hours: TWR: 10:00-11:00amm, MR: 2:00-2:30pm, or by appointment. All office hours will be held virtually by Zoom meeting.

Class schedule and room: This is a fully online class. Students may (1) attend the live video lecture (MW, 11:00am-12:15pm), or (2) watch the recorded video lectures with study guidance and expectations uploaded on D2L course shell. Students have flexible time to complete and progress the study of the course material on a weekly basis.

Technology Requirements: All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements
LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements
LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm
YouSeeU Virtual Classroom Requirements:
https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements
Access and Navigation You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

Technical Support: If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

Text: *Topology for beginners*, by Steve Warner, Publisher: Get 800 (April 25, 2019) ISBN-13: 978-0999811771
        Portions of Lessons 1-5, 7-11, 13 and (if time permits) 12, 14 in the textbook will be discussed.
Reference: Introduction to Topology: Third Edition (Dover Books on Mathematics) Third Edition, by Bert Mendelson.

Course Description: Topological spaces, topology of the real line, metric spaces, connectedness, compactness, separation axioms, mappings, continuity, homeomorphisms, product spaces.

Prerequisite: MATH 332 or 2305 with a minimum grade of C.

Learning Outcomes: Upon successful completion of this course, the students will be able to:
1.   Understand the concepts of sets, set operations, images and inverse images of functions and their computations;
2.   Understand open sets, closed sets, boundary points, interior and closure of a set in the Euclidean topology on R or C;
3.   Understand and explain the limits and continuity on R or C in the language of open sets;
4.   Understand the concepts of topology on a set and open sets, closed sets, boundary points, interior and closure of a set in generic topological space;
5.   Understand and verify a topological basis and a basis for a topology; Verify subspace topology, product topology and metric topology;
6.   Understand and verify continuity, homeomorphisms between general topological spaces.

Instruction: Students will complete the course and learn the material by participating in guided learning activities including watching video lectures, taking study notes, completing homework assignments, participating in group discussions and taking tests as planned and scheduled.

Attendance/Participation: there is No "usual" class attendance, but students are supposed to actively participate in and complete all learning activities in a weekly basis. These include watching video lectures, taking study notes, completing

homework assignments, participating in group discussions and taking tests as planned and scheduled. This is in fact the key to success in an online class.

Tests & Exams: Students will take online proctored exams via zoom meeting with video camera on during the exams.
There will be two midterm and a final exams for the course. The tentative schedules for the exams are:
    Test 1: Sept. 27, Wednesday 11:00am-12:15pm.
    Test 2: Nov. 8,   Wednesday 11:00am-12:15pm.

Final exam: The Final exam will be a comprehensive exam and is scheduled on
             Dec 13, Wednesdays, 10:30am–12:30pm.

No makeup exam will be given unless you have verifiable evidence showing an acceptable reason to have to miss a test and, in that case, you must notify the instructor before the test or in the earliest possible time.

Homework & Quizzes: Some Homework assignments are given in the last page of this syllabus. The detailed due dates information will be given in D2L. You are strongly recommended to work out homework assignments on a regular basis since **No one can learn mathematics without doing it**! You need to submit the due homework through D2L (detailed instructions on how to scan your homework in PDF and upload to D2L has been given in an announcement on course shell).

Course grades: The course grade consists of
                 Homework & Quizzes: 20%
                 Two Tests :   50%
                 Final exam: 30%.
The letter grades will be assigned using the following scale:
 A: 90-100%   B: 80-89%   C: 70-79%   D: 60-69%   F: 0-59%

Withdrawal Policy: Concerning the deadlines and consequences of withdrawals please check on: https://inside.tamuc.edu/admissions/registrar/academicCalendars/

Classroom Behavior: "All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment" (See Student's Guidebook). 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.

Academic Integrity: This course has a **NO TOLERENCE** policy for cheating and if you are caught cheating you will fail this course. Cheating in this course includes the following:

- Giving or receiving answers during an exam or quiz.
- Viewing the exam or quiz answers from others.
- Having notes/practice work available during quizzes or tests.
- Possession or access to test items before the test is given.
- Deception in getting an excused absence to obtain the undeserved opportunity to make-up work.
- Use of cell phones or text messaging technology during exams or quizzes. You may not use the calculator on your cell phones.
- Improper citations in written works, or using another person's ideas and words as your own without giving proper credit.
- **Any** method, no matter how well rationalized or accepted, which improves a person's grade by any means other than study and skillful performances on exams and/or other assignments.

Students found guilty of an act of academic dishonesty in this course will be subject to receiving an "F" in this course.

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/ Gee Library
Room 132 . Phone (903) 886-5150 or (903) 886-5835, Fax (903) 468-8148, and
Web: StudentDisabilityServices@tamuc.edu

Counselling & Help: The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

Campus Concealed Carry Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to ((http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34S

Getting help: A better way to learn math is to keep progress and leave no gaps in one's study. So please get help as soon as you need it. You are welcome to come to my virtual office or use email communication for help.

A tentative weekly schedule

	Weekly Progress	Homework Due
W1	What is topology?	
W2	Sets & Set Operations	
W3	Relations & Partitions	
W4	Functions & Equinumerosity	
W5	Review & Test 1	
W6	Topology on R	
W7	Topology on R & Topology on a metric space	
W8	Topology on a metric space	
W9	Topological Spaces	
W10	Topological Concepts	
W11	Review & Test 2	
W12	Topological bases	
W13	Product and Quotient space	
W14	Continuity & Homeomorphsims	
W15	Course Review	
W16	Final Exam	