Disclaimer: This syllabus is current and accurate as of its posting date, but will not be updated. For the most complete and up-to-date course information, contact the instructor.

Instructor: Dr. Dennis Hall
Office: MCS 220H
Office Hours: M 11:00–12:00
T 12:30–2:00
W 11:00-12:00 & 2:00–4:00
Th 11:00-12:00 & 2:00–4:00
F 10:00-1:00

Course Description: A study of point-set topology, including sets and functions, metric spaces, topological spaces, compactness, separation, connectedness, and approximation.


Evaluation: Your grade for this course will be determined by your performance on tests, homework, and a final exam. Final grades will be based on a standard 10-point grading scale.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>25%</td>
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<tr>
<td>Two Tests</td>
<td>50%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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Important Dates

- **August 28:** First day of class
- **November 3:** Last day to drop a class
- **November 22-24:** Thanksgiving Break
- **December 11-14:** Final Exams
- **December 14:** Our Final Exam, 8-10AM

Exams: There will be 2 in-class tests during the semester and a comprehensive final exam. Each test will count 25% of your final grade, and the final exam will also count 25%. If you know that you will be absent during a test or the final exam, then you must speak to me about it beforehand to discuss the possibility of a make up.

Homework: The homework category includes both homework and classwork. Homework will be assigned at least once a week. Students may discuss the assignments, however all work must be done individually. Any use of another student’s ideas or outside resources must be cited on the assignment. Late homework may be checked for correctness, but will receive a grade of zero. Each student will present at least one homework question to the class throughout the semester.
Course Content: The following chapters including the particular sections listed are covered.

1. Preliminary Topics: Sets, functions, relations, countability, and well-ordered sets.

2. Topological Spaces and Continuous Functions: various topologies, closed sets, limit points, and continuous functions.

3. Connectedness and Compactness: Connected spaces, subspaces of the real line, and compactness.


Student Disability Services:
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA), and subsequent legislation.

The Office of Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student’s responsibility to initiate such a request by contacting:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu

Plagiarism:
Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else's work, idea, etc., and passing it off as one's own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality via Turnitin. Resources to help you understand this policy better are available at the ASU Writing Center.

Student Absence for Observance of Religious Holy Days:
A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. (http://www.angelo.edu/opmanual/ – OP 10.19)

Incomplete Grade Policy:
It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.
Academic Integrity:
Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU. The College of Science and Engineering adheres to the Statement of Academic Integrity

Copyright Policy:
Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

Title IX:
Angelo State University is committed to the safety and security of all students. If you or someone you know experience sexual harassment, sexual assault, domestic or dating violence, stalking, or discrimination, you may contact ASU’s Title IX Coordinator:

Michelle Boone
Director of Title IX Compliance
325-486-6357
michelle.boone@angelo.edu

General Policies Related to this Course:
All students are required to follow the policies and procedures presented in these documents:

- Angelo State University Student Handbook
- Angelo State University Catalog

Student Learning Outcomes: Upon successful completion of the course, students will be able to:

- Students will demonstrate factual knowledge including the mathematical notation and terminology used in this course. Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in college algebra including the real numbers, exponents, radicals, polynomials, factoring, functions, equations, inequalities, and graphs.

- Students will describe the fundamental principles including the laws and theorems arising from the concepts covered in this course. Students will identify and apply the laws and formulas that result directly from the definitions; for example, the quadratic formula, rules of exponents, and properties of logarithms.

- Students will apply the definitions, theorems and techniques covered in this course to further study or work in this or related fields. Students will use the reasoning, techniques and factual information from this course to prove theorems related to metric spaces, topologies, and various properties. Students will demonstrate this through written assignments and oral presentations

- Students will solve problems in this and related fields using techniques and procedures covered in this course. Students will demonstrate a level of proficiency in solving mathematical problems through the acquisition of logical, theoretical, and manipulative techniques. These techniques include inference, deduction, and research skills obtained through exposure to various theorems and their respective proofs.
Course Schedule: What follows is a tentative schedule, and is likely to change throughout the semester.

- Week 1: Preliminary Material (Chapter 1)
- Week 2: Topological Spaces; Order, Product, and Subspace Topologies
- Week 3: Closed Sets, Limit Points
- Week 4: Continuous Functions, Metric Topology
- Week 5: Metric Topology and Review
- Week 6: Test 1 and Connectedness
- Week 7: Subspaces
- Week 8: Compactness
- Week 9: Limit Point Compactness, Local Compactness
- Week 10: Review and Test 2
- Week 11: Countability and Separation Axioms
- Week 12: Normal Spaces and Urysohn Lemma
- Week 13: Urysohn Metrization Theorem
- Week 14: Special topics, if time permits
- Week 15: Special topics, and final exam review