MATH 1332-T60
Introduction to Contemporary Mathematics

Instructor: Ashlee Fuchs
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Phone: 325-486-5433
Office: MCS 220E

Office Hours:
MWF: 9:00am – 10:00am
TR: 9:00am – 11:00am; 1:30pm – 3:00pm
*Office hours will be held virtually via Blackboard Collaborate.
*Face-to-face office hours may be scheduled by appointment only.

Course Information

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

1. The 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 a selection from the following topics: voting theory, apportionment, the mathematics of money, probability, statistics, graph theory, and geometry.

2. The students will be able to describe generalizations of mathematics to real-world situations. Students will be able to describe, for example, the role played by mathematics in the theory of voting. The students will be able to describe connections between mathematical concepts and natural and societal phenomena.

3. The students will apply the course material along with techniques and procedures covered in this course to solve various problems and improve decision making. The students will apply such topics related to statistics and probability to improve decision making through a broader understanding of mathematics. They will learn to analyze problems using mathematical ideas and symbolism and learn to obtain the appropriate resources required to better deal with such problems.
4. The students will develop specific skills, competencies, and thought processes sufficient to support further study or work in this field or related fields. Students will develop new approaches and algorithms for solving problems related to networking, scheduling and paths.

**Student Expectations**

- Maintain academic honesty.
- Complete each assignment by the specified due date.
- Be a positive influence in classroom learning environment by being courteous and respectful to everyone in class. This includes virtual office hours and written communication (email, video posts, etc.)
- It is your responsibility to put in as much effort as it takes to earn your desired grade. This includes utilizing (as needed) all available study aid options (attending virtual office hours and/or getting help from the Math Lab, emailing the instructor, etc.) to resolve any questions or concerns you might have about any aspect of the course.

**Course Delivery**

To maintain academic quality while accommodating social distancing needs this semester, this course will use a split delivery model that combines face-to-face teaching with remote instruction.

The goal is to provide face-to-face instruction to students who want to return to campus, while also allowing students who may need to learn remotely to participate via virtual class sessions.

**How Does It Work?**

Due to social distancing constraints, the class has been split into two groups which are labeled as a BLUE group and a GOLD group. The groups have been determined alphabetically.

- The BLUE group will attend face-to-face lectures on MWF
- The GOLD group will attend face-to-face lectures on TR

If you are not able to attend the physical class on your assigned day, you will be responsible for completing assigned coursework posted in Blackboard. This work can be completed any time before the posted deadline and all assignments will be submitted electronically in Gradescope.
Please refer to this Health and Safety web page for updated information about campus guidelines as they relate to the COVID-19 pandemic.

**Required Texts and Materials**

*Excursions in Modern Mathematics* (9th ed.) by Peter Tannenbaum

**Technology Requirements**

To successfully complete this course, regular and reliable access to a laptop or desktop computer, webcam, and printer will be needed. Please note that tablets and phones will not always support the online tools utilized in this course. A reliable internet connection is also required. Further, access to a scanner or a scanner application for turning in pencil/paper assignments will be needed.

If you are planning to use campus owned technology, get a copy of the hours of operation for the various locations and set your study schedule accordingly. For technology assistance, contact the IT Service Center, which is located in MCS 111. Their phone number is (325) 942-2911 or check out their web page at https://www.angelo.edu/services/technology/support/.

**Communication**

Faculty will respond to email within 24 hours during working hours Monday through Friday. Weekend or holiday messages may not be returned until the next business day.

*Written communication via email:* All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line.

*Virtual communication:* Office hours may be done with the assistance of the telephone if needed in Blackboard Collaborate although a webcam works very well.

**Grading**

**Evaluation and Grades**

Course grades will be determined as indicated in the table below.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent of Total Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework assignments</td>
<td>20%</td>
</tr>
<tr>
<td>Regular Exams</td>
<td>80% (4 @ 20% each)</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
Grading System

The following grading scale is in use for this course:

- A = 90.00-100 points
- B = 80.00-89.99 points
- C = 70.00-79.99 points
- D = 60.00-69.99 points
- F = 0-59.99 points (Grades are not rounded up)

Homework Policy

Homework will be due 2-3 times a week. Be sure to start early and seek help when needed. The three lowest homework scores will be dropped at the end of the semester.

Attendance Policy

In the event that you are not physically in class on one of your assigned days to attend face-to-face lecture you can still participate by livestreaming the lecture during class time or by watching the recorded lecture which will be posted after class. If you watch the recorded lecture, you will need to "mark reviewed" so that there is a record of you attending virtually.

Exams

There will be four regular exams throughout the semester. This category makes up 80% of the overall grade. The exams will be held during weeks 4, 8, 11, and 14. Please note that the fourth exam will actually take place during the scheduled final exam time but it is a regular exam – NOT a comprehensive final exam. If an exam must be taken remotely, a desktop or laptop computer (not a chromebook), a webcam, and a printer will be required.

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
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 to disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university’s Statement of Academic Integrity.\(^5\)

Accommodations for Students with Disabilities

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.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability Services website.\(^6\)

The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

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\(^7\) for more information.
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.

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. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

Title IX at Angelo State University
The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU’s Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.
Required Use of Masks/Facial Coverings by Students

As a member of the Texas Tech University System, Angelo State University has adopted the mandatory Facial Covering Policy to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

Modifications to the Syllabus

This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.

Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics/Activities</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Syllabus, Basic Elements of an Election, Preference Schedules, Voting Methods</td>
</tr>
<tr>
<td>Week 2</td>
<td>Weighted Voting, Banzhof Power, Algebra Topic, Fair Division</td>
</tr>
<tr>
<td>Week 3</td>
<td>Sealed Bids, Apportionment, Algebra Topic</td>
</tr>
<tr>
<td>Week 4</td>
<td><strong>Test 1</strong></td>
</tr>
<tr>
<td>Week 5</td>
<td>Algebra Topic, Hamilton’s Method, Street Routing Problems, Intro to Graph Theory</td>
</tr>
<tr>
<td>Week 6</td>
<td>Intro to Graph Theory, Euler’s Theorem, Eulerizing Graphs, Travelling Salesman, Algebra Topics</td>
</tr>
<tr>
<td>Week 7</td>
<td>Hamilton Paths and Circuits, Brute Force Algorithm, Nearest Neighbor Algorithm</td>
</tr>
<tr>
<td>Week 8</td>
<td>Algebra Topics, <strong>Test 2</strong></td>
</tr>
<tr>
<td>Week 9</td>
<td>Networks and Trees, Spanning Trees, Algebra Topic, Kruskal’s Algorithm</td>
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<tr>
<td>Week 10</td>
<td>Math of Finance, Annuities</td>
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<tr>
<td>Week 11</td>
<td>Rigid Motions, <strong>Test 3</strong></td>
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<tr>
<td>Week 12</td>
<td>Rigid Motion Rotations, Algebra Topic, Frequency Tables; Graphs &amp; Charts</td>
</tr>
<tr>
<td>Week 13</td>
<td>Algebra Topic, Statistics, Future Value Annuities</td>
</tr>
<tr>
<td>Week 14</td>
<td>Probability, <strong>Test 4</strong></td>
</tr>
</tbody>
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1. https://blackboard.angelo.edu/
4. https://www.angelo.edu/catalogs/
6. https://www.angelo.edu/services/disability-services/
7. https://www.angelo.edu/content/files/14197-op-1011-grading-procedures
9. https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of
10. https://www.angelo.edu/services/title-ix/