Math 1332.020 Intro to Contemporary Mathematics
Fall 2020 Syllabus

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 Information
Name: Mrs. Autumn Hoover    Phone: 325-486-5431
email: autumn.hoover@angelo.edu    Office: MCS 220M
Office Hours:  Monday/Wednesday:  11:00 – 12:00; 1:30 – 2:30
      Tuesday/Thursday:  8:30 – 9:30; 11:00 – 12:00; 1:00 – 2:00
      Friday: None scheduled, but I am usually here 11:00 – 12:00 and 1:00 – 2:00.

Feel free to come by my office at any time for help. I will definitely be near my office during my office hours (or there will be a note telling you when I will be back). If my office hours are not convenient for you, meet with me, or send me an email, to arrange for another time that is more convenient. We may also be able to meet virtually through Blackboard Collaborate. You will need a webcam and microphone for this.

This class meets TR (Tuesday/Thursday) 2:00 – 3:15 in MCS 210.

Textbook: Excursions in Modern Mathematics, 9th edition, by Peter Tannenbaum. You must have a copy of the textbook (a digital copy is fine), but you do not need and access code for MyMathLab.

Student Expectations: YOU are expected to…

• Attend class consistently and arrive on time. This applies to in-class and virtual attendance.
• Foster a learning environment by practicing common courtesy at all times.
• Pay attention fully during class.
• Complete each assignment by the specified due date.
• Maintain academic honesty.
• Work outside of class on homework, quizzes, and review materials to master concepts and adequately prepare for exams.
• Utilize, as needed, all available study-aid options (including visiting the math lab, meeting with the instructor, watching lecture videos, etc.) to resolve questions.
• Keep all course materials, notes, worksheets, reviews, syllabus, etc. in a 3 ring binder and bring to class daily.

Math Lab: The Math Learning lab is available on campus and provides FREE math tutoring. Please utilize this great resource- no appointment is necessary. There will also be some other tutoring options available. More information to come.

• MATH LAB- LIB C302 (upstairs)
  o Monday – Friday: 1:00 – 5:00 pm
Course Delivery
We will try the following delivery. If there are issues with this method, we make the necessary changes.

Statement for Synchronous Remote Sessions
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?
Your class will be divided and you will be placed into a smaller group of students to maintain physical distancing requirements in our assigned classroom space.

Your assigned group will receive a schedule of in-person class meetings. This schedule is not flexible. For instance, if you are supposed to attend class on a Monday, you cannot elect to go on Wednesday with another class group instead. The exception will be during the week of exams. You may be asked attend different days than normal.

When you are not in the physical class, you will attend live remote sessions at the same time as our scheduled course. You will also be expected to complete coursework via Blackboard.¹

Please refer to this Health and Safety web page² for updated information about campus guidelines as they relate to the COVID-19 pandemic.

Lecture Notes: You will need to print all lecture notes from Blackboard and bring to class in a 3 ring binder. (I would do this at a computer lab on campus and save your ink.)

Blackboard/Email:
- I plan to post notes, videos, test reviews, grades, important announcements and other documents on Blackboard. I will expect you to print the lecture notes and bring them with you to class daily.
- Blackboard can be accessed through RamPort or by visiting Blackboard.³
- All electronic correspondence will be sent to your ASU e-mail account. It is your responsibility to regularly check your angelo.edu email account.

Attendance: Attendance will be taken daily and is mandatory for the entire class period. Excessive absences are reported to the administration and play a definite role in suspension considerations. Remember that I can teach you more in one hour than you can learn on your own in several hours. So, for your own sake, attend every class!! I count 3 tardies as an absence.

Technology Requirements
To successfully complete this course, students need to have a calculator. If you do not have one, an inexpensive option is the TI 30II S. You will also need a laptop/desktop, webcam, scanner or scanning app and a printer. If you cannot get a printer, we will need to work out something for your exams.

Access to exams will be through Blackboard Collaborate and will be video recorded. This requires a desktop computer or laptop and a webcam. For best results, use an ethernet cable to connect to your Internet source instead of relying on Wifi.
Communication

I will respond to email and/or telephone messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

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 and/or advising may be done with the assistance of the telephone, Blackboard Collaborate, Zoom, Skype, etc.

Homework

Homework will be assigned over every section. Daily work will consist of worksheets and/or textbook problem sets. Homework is due at the BEGINNING of class. **I DO NOT ACCEPT LATE HOMEWORK.**

- You will need to scan pictures of every page of your homework. Convert it to a pdf and upload it into blackboard under the appropriate date in the homework assignments tab.
- If you are going to miss class, you still need to upload the assignment into blackboard before class starts on the day the assignment is due. No late assignments will be accepted.
- If you need assistance with an assignment, see me for help before it is due.
- Homework assignments will be posted daily on blackboard, on the Homework assignment tab.
- I will drop 3 homework grades at the end of the semester to compensate for unavoidable circumstances.
- Box and/or highlight your answers.
- Write legibly. If your answer cannot be read, it is wrong. Show all necessary work.

Tests/Final Exam: There will be three regular exams during the semester and a non-cumulative final exam. If you leave the room during an exam, I may take your test and grade it AS IS! There will be no make-up exams. If you do miss an exam, get in touch with me immediately. You may be required to take a comprehensive final exam to replace the missing exam. **You will take two exams at home using Blackboard Collaborate and record yourself with a webcam.**

Tentative Test Dates:
- Test 1: Thursday, September 10th Group A (Group B will test remotely)
- Test 2: Thursday, October 8th Group B (Group A will test remotely)
- Test 3: Thursday, November 5th Group A (Group B will test remotely)
- Test 4 (Final Exam): Saturday, November 21st 1:00 – 3:00 Group B (Group A will test remotely)

Drop Date: Tuesday November 10th is the last day to drop a class.

Grading: Grades will be determined as follows:
- Homework & Quizzes- 20%
- Tests- 60% (20% each)
- Final Exam- 20%

Final Grades: Final grades will be determined using the following scale
- A: 90% or above
- B: 80% - 89%
- C: 70% - 79%
- D: 60% - 69%
- F: Below 60%
**Common Courtesy:**

- Please turn off all cell phones or any other electronic devices before entering the classroom. Place these items in your backpacks. I do not want to see them on your desk or in your laps. I reserve the right to ask you to leave class if I catch you on your phone.
- Please refrain from carrying on personal conversations once class has started. Be courteous to your peers when they are responding in class by listening to what they have to say.
- You are not given a grade in a college course; you EARN your grade. It is your responsibility to put in as much effort as it takes to earn this grade. This includes utilizing (as needed) all available study aid options (my office hours, the Math Lab, watching lecture videos, etc.) to resolve any questions or concerns you might have about any aspect of the course.

**What to do when you miss class:**

- Upload into blackboard any assignments due the day you are going to be absent. They must be received by class time.
- Watch the live stream or the recording of the live stream (or other posted video) to learn the material.
- Look under “Homework Assignments” in Blackboard and see what homework was assigned while you were out. You are still responsible for the assignment over the material covered.
- Go to math lab or see me during office hours if you are having difficulty with the assignment.

**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](#)

**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](mailto:ADA@angelo.edu). For more information about the application process and requirements, visit the [Student Disability Services website](#). 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
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

For more information about Title IX in general you may visit www.angelo.edu/title-ix.

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.

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.

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.

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.

Student Learning Outcomes

1. **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: basic algebraic techniques, voting theory, apportionment, the mathematics of money, probability, statistics, graph theory, and geometry.

2. **Students will 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 social phenomena.

3. **Students will apply course material along with techniques and procedures covered in this course to solve problems and improve decision making.** 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. **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. Students will develop basic algebraic skills necessary for the support of their academic careers.

Course Content


1. **Mathematics of Voting:** Preference Ballots, Plurality, Borda, Runoff Voting, Pairwise Comparison,
2. **Weighted Voting:** The Banzhaf Power Index,
3. **Apportionment and Sharing:** Fair-Division Games, Sealed Bids
4. **Apportionment:** Various methods including Hamilton’s,
5. **Euler Paths and Circuits:** Euler Circuit Problems, Graphs, Euler’s Theorems, Fleury’s Algorithm, Eulerizing Graphs
6. **The Traveling Salesman Problem:** Hamilton Paths and Circuits, Complete Graphs, Nearest Neighbor Algorithms
7. **Networks:** Trees, Spanning Trees, Kruskal’s Algorithm,
8. **Math of Finance:** Percentages, Simple Interest, Compound Interest, Annuities
9. **Mathematics of Symmetry:** Rigid Motions, Reflections, Rotations Translations,
10. **Descriptive Statistics:** Graphical Methods, Data Summaries, Spread
11. **Probability:** Probabilities
Subject Matter: (tentative schedule- subject to change)
The subject matter schedule listed below is tentative, and subject to change and adaptation. For current, updated information about course topics, contact the instructor or see Blackboard.

Tentative Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Syllabus, Basic Elements of an Election</td>
</tr>
<tr>
<td>2</td>
<td>Voting Methods</td>
</tr>
<tr>
<td>3</td>
<td>Weighted Voting, Banzoff Power</td>
</tr>
<tr>
<td>4</td>
<td>Banzoff Power, Fair Division</td>
</tr>
<tr>
<td>5</td>
<td>Sealed Bids</td>
</tr>
<tr>
<td>6</td>
<td>Review</td>
</tr>
<tr>
<td>7</td>
<td>Voting Review</td>
</tr>
<tr>
<td>8</td>
<td>EXAM 1 Thursday, September 10 Group A (Group B will take it remotely)</td>
</tr>
<tr>
<td>9</td>
<td>Hamilton’s Method, Street-Routing Problems</td>
</tr>
<tr>
<td>10</td>
<td>Introduction to Graph Theory</td>
</tr>
<tr>
<td>11</td>
<td>Euler’s Theorem, Eulerizing Graphs, Traveling Salesman Problem</td>
</tr>
<tr>
<td>12</td>
<td>Hamilton Paths &amp; Circuits</td>
</tr>
<tr>
<td>13</td>
<td>Brute Force Algorithm, Nearest Neighbor Algorithm</td>
</tr>
<tr>
<td>14</td>
<td>Networks, Spanning Trees</td>
</tr>
<tr>
<td>15</td>
<td>Review, Practice Test 2</td>
</tr>
<tr>
<td>16</td>
<td>EXAM 2 Thursday, October 8 Group B (Group A will take it remotely)</td>
</tr>
<tr>
<td>17</td>
<td>Kruskal’s Algorithm, MOF definitions</td>
</tr>
<tr>
<td>18</td>
<td>Math of Finance, Packet 1</td>
</tr>
<tr>
<td>19</td>
<td>Math of Finance- Annuities Packet</td>
</tr>
<tr>
<td>20</td>
<td>Rigid Motions, Translations, Reflections, Rotations</td>
</tr>
<tr>
<td>21</td>
<td>Review 3</td>
</tr>
<tr>
<td>22</td>
<td>Math of Finance Packet 2</td>
</tr>
<tr>
<td>23</td>
<td>Review Packet WS 3</td>
</tr>
<tr>
<td>24</td>
<td>EXAM 3 Thursday, November 5 Group A (Group B will take it remotely)</td>
</tr>
<tr>
<td>25</td>
<td>Frequency Tables, Graphs &amp; Charts, Statistics- Means, Medians, Percentiles</td>
</tr>
<tr>
<td>26</td>
<td>Statistics- Means, Medians, Percentiles, Statistics- Range and Standard Deviation</td>
</tr>
<tr>
<td>27</td>
<td>Statistics- Range and Standard Deviation, Probability</td>
</tr>
<tr>
<td>28</td>
<td>Review for Final Exam</td>
</tr>
<tr>
<td>29</td>
<td>FINAL EXAM Group 1— Saturday, November 21, 1:00 – 3:00</td>
</tr>
</tbody>
</table>

1 https://blackboard.angelo.edu/
2 https://www.angelo.edu/covid-19/returning-to-campus/health-and-safety.php
3 https://blackboard.angelo.edu/
4 http://www.angelo.edu/student-handbook/
5 http://www.angelo.edu/catalogs/
6 https://www.angelo.edu/services/disability-services/
7 https://www.angelo.edu/services/title-ix/
8 http://www.angelo.edu/incident-form
9 http://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of
10 http://www.angelo.edu/content/files/14197-op-1011-grading-procedures
11 http://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
12 http://www.texastech.edu/downloads/ttus-policy-face-coverings.pdf