MATH 1316: Trigonometry with Analytic Geometry, Spring 2019

Contact Information

Instructor: Ashlee Fuchs
Office: MCS 220E
Office Phone: (325) 486-5433
e-mail: Ashlee.Fuchs@angelo.edu

Office Hours:
Monday: 12:15pm – 1:15pm; 1:45pm – 2:45pm in the Math Lab (Lib C302)
Tuesday: 9:00am – 9:30am; 12:15pm – 1:15pm
Wednesday: 12:15pm – 1:15pm; 1:45pm – 2:45pm
Thursday: 9:00am – 9:30am; 12:15pm – 1:15pm
Friday: 9:00am – 11:00am; 12:15pm – 1:15pm
or by appointment

Textbook

Trigonometry: A Unit Circle Approach, Tenth Edition, by Sullivan. You have prepaid for access to an eTextbook for the course and will receive information about accessing the text prior the beginning of the semester. A hard copy of the textbook is on reserve in the library.

Blackboard

This course has an associated Blackboard page where you will have access to grades, assignments, videos, handouts, and other course-related items.

Grading System

The final average will be determined according to the weights in the table that follows.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam I</td>
<td>Feb 14 (Thurs)</td>
<td>20%</td>
</tr>
<tr>
<td>Exam II</td>
<td>Mar 21 (Thurs)</td>
<td>20%</td>
</tr>
<tr>
<td>Exam III</td>
<td>Apr 18 (Thurs)</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Thurs, May 9th</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>8:00am-10:00am</td>
<td></td>
</tr>
<tr>
<td>Homework</td>
<td>Most Days</td>
<td>15%</td>
</tr>
</tbody>
</table>

Grading Policy

To determine the average needed to ensure that you obtain the grade that you want in this course, consult the table that follows.

<table>
<thead>
<tr>
<th>Average</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>89.5 and above</td>
<td>A</td>
</tr>
<tr>
<td>79.5 to 89.5</td>
<td>B</td>
</tr>
<tr>
<td>69.5 to 79.5</td>
<td>C</td>
</tr>
<tr>
<td>59.5 to 69.5</td>
<td>D</td>
</tr>
<tr>
<td>below 59.5</td>
<td>F</td>
</tr>
</tbody>
</table>
Homework Policy
Homework sets will be assigned most days and will be due at the beginning of the next class day unless there is an exam on that day. In that case, the homework will be due the class day following the exam. The lowest 2 homework grades will be dropped at the end of the semester when determining the homework average. If you have trouble completing a homework assignment, please see me for assistance before it is due.

Exams
There will be three mid-semester exams scheduled as shown above, which will account for 60% of your final grade. Each mid-semester exam will account for 20% of your final grade. In addition to these exams, there will be a comprehensive Final Exam on Thursday, May 9th from 8:00am – 10:00am. The Final Exam will account for 25% of your final grade.

Attendance
Attendance will be taken regularly. Please inform me of any absences prior to the absence whenever possible.

Drop Date
Thursday, March 28, 2019 is the last day to drop a course with a W or withdraw from ASU.

Student Responsibilities
The student is solely responsible for:
- Completing each assignment by the specified due date.
- Obtaining assignments and other materials for classes from which they are absent.
- Utilizing, as needed, all available study-aid options (including meeting with the instructor, referring to outside texts, etc.) to resolve any questions that they might have regarding homework, course material, etc.
- Realizing from the beginning of the course the grade that they may need or want to graduate, maintain a scholarship, stay in athletics, etc. … and give as much effort as it takes to obtain this grade.

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
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/Title IX Coordinator*  
Mayer Administration Building, Room 220  
325-942-2022  
michelle.boone@angelo.edu

**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. The full details can be found in ASU Operating Policy OP 10.19 [Observance of Religious Holy Days](#).

**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.

**Student Conduct Policies**

**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](#).

**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](#).
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.

General Policies Related to this Course

- All students are required to follow the policies and procedures presented in these documents:
  - Angelo State University Student Handbookvi
  - Angelo State University Catalogvii

- In the event that the university is closed for a scheduled class time, whatever was scheduled for that day and/or whatever was due that day will be scheduled and/or due on the next scheduled class time.
- All electronic correspondence will be sent to your ASU e-mail account unless other arrangements are made.
- 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 to arrange for another time that is more convenient.
- Good luck. I sincerely hope you do well in this course, and I strongly encourage you to use me as a resource outside of class to help you succeed.

Mathematics 1316 – Trigonometry with Analytic Geometry

Student Learning Outcomes

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 trigonometry including definitions of the six trigonometric functions; types of angle measure and notation; equations of conic sections; representing equations in polar coordinates; and the definition of vectors.

2. The 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 fundamental identities, properties of angles and triangles, characteristics of the trigonometric functions, inverse trigonometric functions, polar equations (including graphs), and formulas for converting between polar and rectangular coordinates.

3. Students will apply course material along with techniques and procedures covered in this course to solve problems. Students will use the facts, formulas, and techniques learned in this course to prove identities and solve trigonometric equations; and solve
various types of triangle problems, distance and navigation problems, and linear and angular velocity problems.

4. The Student will develop specific skills, competencies, and thought processes sufficient to support further study or work in this field or related fields. Students will acquire a level of proficiency in the fundamental concepts and applications necessary for further study in academic areas requiring trigonometry as a prerequisite, or for work in occupational fields requiring a background in trigonometry. These fields might include education, business, finance, marketing, computer science, physical sciences, and engineering, as well as mathematics.

Course Content

Textbook: *Trigonometry: A Unit Circle Approach*, Tenth Edition, by Sullivan. The following chapters including the particular sections listed are covered. (See textbook “Contents.”)

1. **Graphs and Functions.** Graphs of Equations in Two Variables; Circles; Functions and Their Graphs; Properties of Functions; Library of Functions; Piecewise-defined Functions; Graphing Techniques: Transformations; One-to-one Functions; Inverse Functions

2. **Trigonometric Functions.** Angles and Their Measure; Trigonometric Functions: Unit Circle Approach; Properties of the Trigonometric Functions; Graphs of the Sine and Cosine Functions; Graphs of the Tangent, Cotangent, Cosecant, and Secant Functions; Phase Shift; Sinusoidal Curve Fitting

3. **Analytic Trigonometry.** The Inverse Sine, Cosine, and Tangent Functions; The Inverse Trigonometric Functions (continued); Trigonometric Equations; Trigonometric Identities; Sum and Difference Formulas; Double-angle and Half-angle Formulas; Product-to-Sum and Sum-to-Product Formulas

4. **Applications of Trigonometric Functions.** Right Triangle Trigonometry; Applications; Law of Sines; Law of Cosines; Area of a Triangle

5. **Polar Coordinates; Vectors.** Polar Coordinates; Polar Equations and Graphs; Vectors; The Dot Product; Vectors in Space; The Cross Product

6. **Analytic Geometry.** The Parabola; The Ellipse; The Hyperbola; Polar Equations of Conics; Plane Curves and Parametric Equations
## Anticipated Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.1, 4.1, 1.2, 1.3</td>
</tr>
<tr>
<td>2</td>
<td>1.4, 1.5, 1.6</td>
</tr>
<tr>
<td>3</td>
<td>1.7, 2.2, 2.3</td>
</tr>
<tr>
<td>4</td>
<td>2.3, 2.4</td>
</tr>
<tr>
<td>5</td>
<td>2.5, <strong>Exam 1</strong></td>
</tr>
<tr>
<td>6</td>
<td>2.6, 3.1</td>
</tr>
<tr>
<td>7</td>
<td>3.2, 3.3</td>
</tr>
<tr>
<td>8</td>
<td>3.4, 3.5</td>
</tr>
<tr>
<td>9</td>
<td>3.6, <strong>Exam 2</strong></td>
</tr>
<tr>
<td>10</td>
<td>3.7, 4.1</td>
</tr>
<tr>
<td>11</td>
<td>4.2, 4.3</td>
</tr>
<tr>
<td>12</td>
<td>4.4, 5.1, 5.2, 5.4</td>
</tr>
<tr>
<td>13</td>
<td>5.5, 5.6, <strong>Exam 3</strong></td>
</tr>
<tr>
<td>14</td>
<td>5.7, 6.2, 6.3</td>
</tr>
<tr>
<td>15</td>
<td>6.4, 6.6, 6.7</td>
</tr>
</tbody>
</table>

All items contained in this syllabus are subject to change as the semester progresses. Students will be notified in advance of any changes.

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1. Blackboard Link: [http://blackboard.angelo.edu](http://blackboard.angelo.edu)
3. Grading Procedures: [http://www.angelo.edu/content/files/14197-op-1011-grading-procedures](http://www.angelo.edu/content/files/14197-op-1011-grading-procedures)
5. ASU Writing Center: [http://www.angelo.edu/dept/writing_center/academic_honesty.php](http://www.angelo.edu/dept/writing_center/academic_honesty.php)