Math 1316-010: Trigonometry with Analytic Geometry
Spring 2022

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.

Information About COVID-19

Please refer to ASU's COVID-19 (Coronavirus) Updates[1] web page for current information about campus guidelines and safety standards as they relate to the COVID-19 pandemic.

Instructor Information

Dr. Dionne T. Bailey
Office: MCS 220G
Phone: 325-486-5425
Email: Dionne.Bailey@angelo.edu

Office Hours

I will be available for office hours both in-person and virtually. To meet with me in-person, please come by my office in MCS 220G during the following times. To meet with me virtually during the following times, please call my office phone at 325-486-5425. If you are unable to meet with me during the following times, please email me at Dionne.Bailey@angelo.edu to schedule an appointment.

Days	Times
Monday	10:00 am – 12:00 pm
Tuesday	1:00 pm – 2:00 pm
Wednesday	10:00 am – 12:00 pm
Thursday	1:00 pm – 2:00 pm
Friday	10:00 am – 12:00 pm

Course Information

Class Meetings

Our class meetings are scheduled on Monday, Wednesday, and Friday from 1:00 pm – 1:50 pm in MCS 212. This course is face-to-face, and it is not accessible through a live streaming tool. Additionally, in-person attendance is required. All students, faculty and staff are required to

complete the wellness screening every day before coming to campus or leaving their residence hall.

Attendance

You will be required to attend class in person. I will use Navigate to record your in-class attendance each day. You will receive 100 for attending class and zero for missing class. If you miss class, you will need to watch the class recording and take notes. If you submit your notes in Blackboard[2] by 11:59 PM on the next day, then you will receive 90 in place of the zero.

Technology Requirements

To successfully complete this course, students need to have a smart phone and access to a laptop, desktop computer, or tablet with a reliable internet connection.

Tests

We will have three written tests and a cumulative final exam. All exams must be proctored either by me or an authorized testing center. The exam dates are listed in the course schedule below. Contact me immediately if you are unable to take an exam at the scheduled date.

Daily Work

Daily work will consist of homework problems from the textbook. You will complete the homework assignment on paper and include your work. Then you will take a photo/scan of all of your work and use a scanner or a smart phone app to create a pdf file. Then you will submit this pdf file through Blackboard. Contact me immediately if you are unable to complete an assignment.

Grade Calculation

Your grade on attendance will count for 10%, your grade on your daily work will count for 10%, your test average will count for 55%, and the cumulative final examination will count for 25%. The following grading scale is in use for this course:
A = 90.00-100
B = 80.00-89
C = 70.00-79
D = 60.00-69
F = 0-59

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 students 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.

Prerequisite

Mathematics 1314 or a suitable score on a placement exam.

Required Texts and Readings

The three textbooks for this class are open-source and available for free online, in web view and PDF format. You can also purchase a print version, if you prefer, via the campus bookstore or from OpenStax on Amazon[3].

1. Algebra and Trigonometry from OpenStax[4], Print ISBN 1938168372, Digital ISBN 1947172107
2. Intermediate Algebra from OpenStax[5], Print ISBN 9781975076498, Digital ISBN 9781951693244
3. Precalculus from OpenStax[6], Print ISBN 1938168348, Digital ISBN 1947172069

Algebra and Trigonometry: Table of Contents

Chapter 2. Equations and Inequalities. Rectangular Coordinate Systems and Graphs
Chapter 3. Functions. Functions and Function Notation; Domain and Range; Inverse Functions
Chapter 7. The Unit Circle: Sine and Cosine Functions. Angles; Right Triangle Trigonometry; Unit Circle; The Other Trigonometric Functions.
Chapter 8. Periodic Functions. Graphs of the Sine and Cosine Functions; Graphs of the Other Trigonometric Functions; Inverse Trigonometric Functions.
Chapter 9. Trigonometric Identities and Equations. Solving Trigonometric Equations with Identities; Sum and Difference Identities; Double-Angle, Half-Angle, and Reduction Formulas; Sum-to-Product and Product-to-Sum Formulas; Solving Trigonometric Equations.

Chapter 10. Further Applications of Trigonometry. Non-Right Triangles: Law of Sines; Non-Right Triangles: Law of Cosines; Polar Coordinates; Polar Coordinates: Graphs; Parametric Equations; Parametric Equations: Graphs; Vectors.

Intermediate Algebra: Table of Contents

Chapter 11. Conics. Distance and Midpoint Formulas; Circles.

Precalculus: Table of Contents

Chapter 10. Analytic Geometry. The Ellipse; The Hyperbola; The Parabola; Conic Sections in Polar Coordinates.

Course Schedule

The subject matter schedule listed below is tentative, and subject to change and adaptation. For current, updated information about course topics, contact the instructor.

Wednesday, January 19, 2022

- Syllabus

Friday, January 21, 2022

- (Algebra and Trigonometry) Section 2.1 Rectangular Coordinate Systems and Graphs
  Due Tuesday, January 25 at 11:59 PM

Monday, January 24, 2022

- (Intermediate Algebra) Section 11.1 Distance and Midpoint Formulas; Circles
  Due Friday, January 28 at 11:59 PM

Wednesday, January 26, 2022

- (Algebra and Trigonometry) Section 3.1 Functions and Function Notation
  Due Tuesday, February 1 at 11:59 PM
- (Algebra and Trigonometry) Section 3.2 Domain and Range
  Due Tuesday, February 1 at 11:59 PM

Friday, January 28, 2022

- (Algebra and Trigonometry) Section 3.7 Inverse Functions
  Due Tuesday, February 1 at 11:59 PM

Monday, January 31, 2022

- (Algebra and Trigonometry) Section 7.1 Angles

Wednesday, February 02, 2022

- (Algebra and Trigonometry) Section 7.1 Angles
  Due Tuesday, February 8 at 11:59 PM

Friday, February 04, 2022

- (Algebra and Trigonometry) Section 7.2 Right Triangle Trigonometry

Monday, February 07, 2022

- Quiz with Cheat Sheet
- Exam 1 Review

Wednesday, February 09, 2022

- (Algebra and Trigonometry) Section 7.2 Right Triangle Trigonometry
  Due Tuesday, February 15 at 11:59 PM

Exam 1

- Thursday, February 10 from 5:00 pm – 7:00 pm

Friday, February 11, 2022

- (Algebra and Trigonometry) Section 7.3 Unit Circle

Monday, February 14, 2022

- (Algebra and Trigonometry) Section 7.3 Unit Circle
  Due Friday, February 18 at 11:59 PM

Wednesday, February 16, 2022

- (Algebra and Trigonometry) Section 7.4 The Other Trigonometric Functions

Friday, February 18, 2022

- (Algebra and Trigonometry) Section 7.4 The Other Trigonometric Functions
  Due Tuesday, February 22 at 11:59 PM

Monday, February 21, 2022

- (Algebra and Trigonometry) Section 8.1 Graphs of the Sine and Cosine Functions

Wednesday, February 23, 2022

- (Algebra and Trigonometry) Section 8.1 Graphs of the Sine and Cosine Functions

Friday, February 25, 2022

- (Algebra and Trigonometry) Section 8.1 Graphs of the Sine and Cosine Functions
  Due Tuesday, March 1 at 11:59 PM

Monday, February 28, 2022

- (Algebra and Trigonometry) Section 8.2 Graphs of the Other Trigonometric Functions
  Due Friday, March 4 at 11:59 PM

Wednesday, March 02, 2022

- (Algebra and Trigonometry) Section 8.3 Inverse Trigonometric Functions

Friday, March 04, 2022

- (Algebra and Trigonometry) Section 8.3 Inverse Trigonometric Functions
  Due Tuesday, March 8 at 11:59 PM

Monday, March 07, 2022

- (Algebra and Trigonometry) Section 9.1 Verifying Trigonometric Identities and Using Trigonometric Identities to Simplify Trigonometric Expressions
  Due Friday, March 11 at 11:59 PM

Wednesday, March 09, 2022

- (Algebra and Trigonometry) Section 9.2 Sum and Difference Identities
  Due Tuesday, March 15 at 11:59 PM

Friday, March 11, 2022

- (Algebra and Trigonometry) Section 9.4 Sum-to-Product and Product-to-Sum Formulas
  Due Tuesday, March 22 at 11:59 PM
- (Algebra and Trigonometry) Section 9.3 Double-Angle, Half-Angle, and Reduction Formulas

Monday, March 14, 2022

- Spring Break

Wednesday, March 16, 2022

- Spring Break

Friday, March 18, 2022

- Spring Break

Monday, March 21, 2022

- Exam 2 Review

Wednesday, March 23, 2022

- (Algebra and Trigonometry) Section 9.3 Double-Angle, Half-Angle, and Reduction Formulas

Exam 2

Thursday, March 24 from 5:00 pm – 7:00 pm

Friday, March 25, 2022

- (Algebra and Trigonometry) Section 9.3 Double-Angle, Half-Angle, and Reduction Formulas
  Due Tuesday, March 29 at 11:59 PM

Monday, March 28, 2022

- (Algebra and Trigonometry) Section 9.5 Solving Trigonometric Equations

Wednesday, March 30, 2022

- (Algebra and Trigonometry) Section 9.5 Solving Trigonometric Equations
  Due Tuesday, April 5 at 11:59 PM

Friday, April 01, 2022

- (Algebra and Trigonometry) Section 10.1 Non-Right Triangles: Law of Sines
  Due Tuesday, April 5 at 11:59 PM

Monday, April 04, 2022

- (Algebra and Trigonometry) Section 10.2 Non-Right Triangles: Law of Cosines
  Due Friday, April 8 at 11:59 PM

Wednesday, April 06, 2022

- (Algebra and Trigonometry) Section 10.3 Polar Coordinates

Friday, April 08, 2022

- (Algebra and Trigonometry) Section 10.3 Polar Coordinates
  Due Tuesday, April 12 at 11:59 PM
- (Algebra and Trigonometry) Section 10.4 Polar Coordinates: Graphs

Monday, April 11, 2022

- (Algebra and Trigonometry) Section 10.4 Polar Coordinates: Graphs
  Due Friday, April 15 at 11:59 PM

Wednesday, April 13, 2022

- (Algebra and Trigonometry) Section 10.8 Vectors

Friday, April 15, 2022

- (Algebra and Trigonometry) Section 10.8 Vectors
  Due Tuesday, April 19 at 11:59 PM

Monday, April 18, 2022

- (Precalculus) Section 10.1 The Ellipse
  Due Friday, April 22 at 11:59 PM

Wednesday, April 20, 2022

- (Precalculus) Section 10.2 The Hyperbola
  Due Tuesday, April 26 at 11:59 PM

Friday, April 22, 2022

- (Precalculus) Section 10.3 The Parabola
  Due Tuesday, April 26 at 11:59 PM

Monday, April 25, 2022

- Exam 3 Review

Wednesday, April 27, 2022

- (Algebra and Trigonometry) Section 10.6 Parametric Equations
  Due Tuesday, May 3 at 11:59 PM

Exam 3

- Thursday, April 28 from 5:00 pm – 7:00 pm

Friday, April 29, 2022

- (Algebra and Trigonometry) Section 10.7 Parametric Equations: Graphs
  Due Tuesday, May 3 at 11:59 PM

Monday, May 02, 2022

- Final Exam Review

Wednesday, May 04, 2022

- Final Exam Review

Friday, May 06, 2022

- Final Exam Review

Final Exam

- Wednesday, May 11 from 1:00 pm – 3:00 pm

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[7]
- Angelo State University Catalog[8]

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 university's Statement of Academic Integrity[9] (Page 97).

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.[10] The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dr. 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[11] for more information.

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[12] for more information.

Title IX at Angelo State University

Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.

You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Miller, J.D. You may submit reports in the following manner:

Online: Incident Reporting Form[13]
Face to Face: Mayer Administration Building, Room 210
Phone: 325-942-2022
Email: michelle.miller@angelo.edu

Note, as a faculty member at Angelo State, I am a mandatory reporter and must report incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).

For more information about resources related to sexual misconduct, Title IX, or Angelo State's policy please visit the Title IX website.[14]

---

[1] https://www.angelo.edu/covid-19/
[2] https://blackboard.angelo.edu/
[3] https://www.amazon.com/
[4] https://openstax.org/details/algebra-and-trigonometry/
[5] https://openstax.org/details/books/intermediate-algebra-2e/
[6] https://openstax.org/details/books/precalculus/

[7] https://www.angelo.edu/current-students/student-handbook/
[8] https://www.angelo.edu/academics/catalog/
[9] https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=97
[10] https://www.angelo.edu/current-students/disability-services/
[11] https://angelo.policystat.com/policy/10659448/latest/
[12] https://angelo.policystat.com/policy/10659368/latest/
[13] https://www.angelo.edu/incident-form
[14] https://www.angelo.edu/title-ix