Mathematics 1316 – Trigonometry with Analytic Geometry

Professor: Mrs. Laura Morris
Room: D-145
Office Hours/ Tutorials: to be determined…
Email: lmorris@burnetcisd.net

***All rules and procedures outlined in the BHS and ASU Handbooks apply to this classroom.

Contact Information:
Email is the best way to contact me for most needs. There will also be information and announcements posted on ASU’s Blackboard. It is imperative for you to access your ASU Blackboard login. I am not allowed to do this for you. If you have trouble, please let me know you are having issues and then contact ASU’s IT Service Center. The textbook for this course will be accessible on Blackboard.

Disclaimer
This syllabus is current and accurate as of its posting date however, it will not be updated. For the most complete and up-to-date course information, contact the instructor and view the updated syllabus version on blackboard(modified/updated syllabus). Statements below were written for both in class instruction and online instruction. Class time has not been scheduled yet – class is online and face-to-face, but exams will be given at a standard time determined by instructor with input from students. I will send out a questionnaire as to best time (hour) for testing – if a time does not satisfy all students, a second time will be chosen.

Grades – homework be given during the semester, but the bulk of the grade will come from exams

Computer/calculator/Cell Phone Use/ IT help (325)942-2911
You will need to have a computer/laptop or desktop available for use on exams. A camera needs to be available (there is a camera on your Chromebook) when taking exams. Calculators are not available to all students, so their use is limited. Cell phones are not a good alternative to computers when taking tests or quizzes. Time may be of the essence. You will be submitting some assignments and tests online. Make sure you can scan or take photos of documents when necessary tp post on blackboard. Some instruction may be provided. Never Panic over technology. If you cannot do it, it is quite possible that your instructor may not be able to do it either. IT help desk (325)942-2911

Homework
It is strongly suggested that you attempt every problem assigned for homework. This will help you learn the material and prepare you for exams, and future courses. I may choose several problems to grade instead of the entire homework assignment.

Attendance
Attendance is essential to learning new material. For online class, attendance equates to making sure that you review/study/ learn material on notes (engaging with the course every other school day). Take exams on time. If there is a deadline, do not wait till the last moment (midnight).
Those of you willing to study will find that the notes and homework will provide the best learning tool. Make use of them and the online textbook available to you. Make use of online and in-class office hours – ask questions, become comfortable – if you are not comfortable in a group setting, ask for individual time with instructor and/or teaching assistant.

Exams
You will be given five exams plus a final exam. If you are taking these in-class or online, tests will be timed (time limit) and must be taken at a particular time decided by the instructor with input from the students. Make sure to have access to a camera – I may use zoom or blackboard collaborate to keep an eye on you while you take an exam. A phone will not be acceptable. If I have discussion over class material or to answer questions, I will conduct a video session with a posting of the recording.

Semester Letter Grade
A semester average will be computed based on quiz average, take-home exams (average), and from in class exams. An in-person explanation of the grading process will be given on first day in class. Grade will come from exams (70 %) & HW (30 %). 100 – 90 is an A, 80-89 is a B, 70-79 is a C, 60 – 69 is a D, any average below 60 is an F.

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.

August 2020
Course Content


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

Tentative Schedule (2 weeks at a time, 5 class periods):

Week of August 17th & August 28th – 2 daily assignments (this a ‘remember math?” review)

Getting to know you/ class norms and expectations (August 17th – 21st)
Review Library of functions such as: linear, quadratic, exponential, square root, etc…
Review tables, parent functions, domain and range of functions
Review Inverse functions (not on exam 1)

Week of August 31st– Exam 1 + 1 daily assignment

Monday August 31st /Tuesday September 1st – Review functions and their graph
Wednesday September 2nd /Thursday September 3rd – Exam 1
Friday September 4th - (end of 1st 3 weeks)
Graphs and equations of circles
The Unit Circle

Week of September 7th & September 14th – 4 daily assignments

Monday September 7th – HOLIDAY
The Unit Circle
Sine and Cosine graphs w/ Unit circle
Cosecant and Secant graph w/ Unit circle
Tangent & Cotangent graph w/ Unit circle

Week of September 21st & September 28th Exam 2 + 3 daily assignments

Monday September 21st /Tuesday September 22nd – Review Unit Circle/ Trig functions
Wednesday September 23rd /Thursday September 24th – Exam 2
Friday September 25th (end of 1st 6 weeks)
Sinusoidal functions and their graphs
Phase and Amplitude of sinusoidal functions
Write sine and cosine functions from their graphs

Week of October 5th & Week of October 12th – Exam 3 - 3 daily assignments

Monday October 12th – HOLIDAY
Inverse Trig functions
Trigonometric Identities
Tuesday October 13th / Wednesday October 14th – Exam 3
Friday October 16th - (end of 2nd 3 weeks)

Week of October 19th & October 26th– Exam 4 +2 daily assignments

Trig Identities
Sum and Difference Identities
Tuesday October 27th/Wednesday October 28th – Exam 4
Friday October 30th - (end of 2nd 6 weeks)

Week of November 2nd &November 9th - 5 daily assignments

Double-angle, half-angle, and reduction identities
Sum-to-product and Product-to-sum Identities
Solving Trig Equations
Law of Sines and Law of Cosines

Week of November 16th – Exam 5 + 1 daily assignment

Tuesday November 17th/Wednesday November 18th – Exam 5
Review for Final exam
Friday November 20th - (end of 3rd 3 weeks)
Week of November 23rd – THANKSGIVING HOLIDAY

Week of November 30 – ASU Final Exam week
Wednesday December 2nd / Thursday December 3rd - Trigonometry Final Exam
Monday December 7th ASU Grades Due

Daily Grades – 30%
Exam Grades – 70%

Daily Grades * 0.3 + Exam Grades * 0.7 = Semester Average

Semester Average * 0.8 + Final Exam * 0.2 = ASU Semester Grade

Assignments are expected to be completed by the due date. A student must arrange IN ADVANCE with Mrs. Morris if an assignment will be late.

If your accommodations require extra time for assignments and/or tests, please talk to me within the 1st two weeks of class so we can come to an agreed upon arrangement for your accommodations.

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.

Academic honesty: Academic misconduct includes cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, violations of published professional ethics/standards, and any act or attempted act designed to give unfair academic advantage to oneself or another student. See the Angelo State University Student Handbook, Part II B: https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php

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.

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 Ms. Dallas Swafford, Director of Student Disability Services; Dallas.swafford@angelo.edu

Title IX

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 Boone, J.D. You may submit reports in the following manner:
- Online: www.angelo.edu/incident-form
- Face to Face: Mayer Administration Building, Room 210
- Phone: 325-942-2022
- Email: michelle.boone@angelo.edu
You may also file a report online 24/7 at www.angelo.edu/incident-form.

michelle.boone@angelo.edu

Observance of Religious Holy Days: http://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of
Grading Procedures: http://www.angelo.edu/content/files/14197-op-1011-grading-procedures
Academic Integrity: http://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
ASU Writing Center: http://www.angelo.edu/dept/writing_center/academic_honesty.php
University Catalog: http://www.angelo.edu/catalogs/