Wayland Baptist University

Plainview Campus

School of Mathematics & Sciences

# Wayland Mission Statement:

Wayland Baptist University exists to educate students in an academically challenging, learning-focused and distinctively Christian environment for professional success and service to God and humankind.

# Course Title and Number:

MATH 1305-VC01; Trigonometry

## Term:

Spring 1 2021, 8 week course

## Name of Instructor:

Dr. Elise Adamson, Professor of Mathematics & Physics (she/her)

## Office Phone Number and WBU Email Address:

806-291-1129; [adamsone@wbu.edu](mailto:adamsone@wbu.edu);

## Office Hours, Building, and Location:

TBA, Plainview campus, Moody Science Building room 123 (office hours posted by start of course)

## Class Meeting Time and Location:

Online, asynchronous

## Catalog Description:

Trigonometric functions, solutions of triangles, trigonometric identities, trigonometric function graphs, and trigonometric forms of complex numbers and vectors. Prerequisite:MATH 1304 (College Algebra) or equivalent

**Placement:** This class is intended for students who plan to major or minor in mathematics or science who have not had Trigonometry or Pre-Calculus in high school.

## Textbook:

Inclusive Access (automatically charged to your WBU student account) MyLab Math Student Access Code for Sullivan, Trigonometry: A Unit Circle Approach, 11th edition. Prentice Hall; ISBN 9780135181133- (do not just buy hardcopy text, you must have MyLab Math access)  
Provided through eTextbook Link in Blackboard (Inclusive Access) If you wish to OPT-OUT of the Inclusive Access, you must do so no later than Jan 18th. It will likely cost more to purchase this access elsewhere. You cannot pass the course without the MyLab Math access- half of your grade is in this system.

**Optional Textbook:** Dr. Scott Franklin’s Lecture Notes for Trig- you may purchase print copy from WBU bookstore, or possibly online. Or you can take your own notes. The “teaching” of this course is through watching videos created by Dr. Scott Franklin. He is not your instructor, your instructor is Dr. Elise Adamson (she/her).

**Supplies:** Scientific Calculator (MUST have sin/cos/tan functions)

## Course Outcome Competencies:

1. The student will understand the unit-circle definitions of the trigonometric functions and their properties.
2. The student will be able to graph trigonometric functions and transformations of trigonometric functions.
3. The student will be able to derive functional forms of trigonometric functions from their graphs.
4. The student will be able to find exact values of inverse trigonometric functions.
5. The student will be able to solve trigonometric equations.
6. The student will be able to verify trigonometric identities.
7. The student will be able to solve right triangles using the Pythagorean Theorem and SOHCAHTOA.
8. The student will be able to solve general triangles using the Law of Sines and the Law of Cosines.
9. The student will be able to translate points and complex numbers to polar form.
10. The student will be able to do algebra on complex numbers and vectors.

## Attendance Requirements:

Attendance for an online course is determined based on completion of assigned activities. It is not sufficient to just open the course in Blackboard. In particular, **anyone who has** **not completed the initial assignment by end of day on Wed, Jan 13th** will be reported as a “no-show” and may be dropped from the course. Ordinarily, work will be due by Sunday night at midnight, Texas time (CST), but Wayland has a requirement for one initial assignment due 1/13 specifically to see if students are actually participating- in an 8-week course, you cannot afford to wait a full week before starting work.

(My initial assignment will not require learning the math content yet, but rather be more about logistics of the course or getting to know each other). After this assignment, you are expected to regularly watch the videos and take notes, complete online homework and quizzes, and set up for and take proctored exams. This is what shows acceptable attendance. Anyone failing to submit ANY work due in a two week period will be counted as not attending.

## Statement on Plagiarism and Academic Dishonesty:

Wayland Baptist University observes a zero tolerance policy regarding academic dishonesty. Per university policy as described in the academic catalog, all cases of academic dishonesty will be reported and second offenses will result in suspension from the university.

## Disability Statement:

In compliance with the Americans with Disabilities Act of 1990 (ADA), it is the policy of Wayland Baptist University that no otherwise qualified person with a disability be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity in the university. The Coordinator of Counseling Services serves as the coordinator of students with a disability and should be contacted concerning accommodation requests at (806) 291-3765. Documentation of a disability must accompany any request for accommodations.

## Course Requirements and Grading Criteria:

### Homework:

Homework will be assigned at the end of each section in the text. The majority of your homework will be assigned and completed on MyLab Math, which you may access through Blackboard. A few assignments will be in Blackboard directly. Homework must be submitted by the due date. When completing your MyLab Math homework, each homework problem can be attempted an unlimited number of times (e.g., until you get it correct), so long as it is before the due date.

### Quizzes

You will be required to complete an online quiz each week. You can attempt each quiz up to 3 times and the highest grade is recorded. The quiz will cover all homework assignments due that week.

### Exams:

During the semester, there will be 2 exams: a midterm and final. Review material will be in Blackboard, under the “Review for Exams” tab in left menu. You will need a proctor for the midterm and the final, which will both be EITHER pencil and paper exams (taken in person, with an approved proctor), OR you may take an online test in Blackboard using Proctorio (online proctoring) for a fee.

#### Face-to-face proctoring

For those near a Wayland campus, you are expected to contact the nearest WBU office and schedule to take your exam there (in Plainview, contact the library). If you are not near a WBU campus, you may find your own proctor and request approval for that person. For more information on who qualifies as a proctor and how to get them accepted as a proctor by WBUonline, visit the website:

<https://www.wbu.edu/wbu-online/current-students/proctored-exams.htm>

The deadline for securing a proctor for your midterm is **a week prior to the midterm exam*.*** Please make sure your paperwork is submitted to WBU Online (not your instructor) by this date. **Format of exam subject to change due to COVID19 restrictions- it is possible that online exam could be required.**

#### Online proctoring:

If you cannot reasonably schedule a face-to-face proctor, or if it is more convenient to take the test online, these things are required:

* Computer with good internet connection and sufficient bandwidth
* Webcam which records video and audio
* Place to take exam where you are not talking to or generally interrupted by others
* Ability to pay fee online to proctoring service at time of exam
* Ability to install Secure Exam extension to Chrome on the computer (and use Chrome browser)
* Have phone camera or scanner to take and submit digital pictures of your work
* Able to take test during last two days of test window

Currently, the fee for online proctoring is $10 per exam (but this is set by Proctorio, so might change), paid directly to Proctorio at the time of the test. For those choosing to test online, you MUST have a webcam to record video and audio, be using Chrome browser and download the Secure Proctor extension, and THERE WILL BE A REDUCED TEST-DATE WINDOW, as scheduling should not be as difficult. Online testing will be allowed during the last two to three days of the face-to-face test window. If you test online, as soon as your test is complete and submitted, you are to take CLEAR pictures or scans of your work and upload them, to verify how you worked out the problems. Keep this work until professor has had time to read and grade the written work.

### Grading:

25% Homework (generally at MyLab Math)

25% Quizzes (generally at MyLab Math)

50% Proctored Exams: midterm & final

A: 90 – 100     B:  80 – 89    C:  70 – 79    D:  60 – 69    F: Below 60

Students shall have protection through orderly procedures against prejudices or capricious academic evaluation. A student who believes that he or she has not been held to realistic academic standards, just evaluation procedures, or appropriate grading, may appeal the final grade given in the course by using the student grade appeal process described in the Academic Catalog. Appeals may not be made for advanced placement examinations or course bypass examinations. Appeals are limited to the final course grade, which may be upheld, raised, or lowered at any stage of the appeal process. Any recommendation to lower a course grade must be submitted through the Executive Vice President/Provost to the Faculty Assembly Grade Appeals Committee for review and approval. The Faculty Assembly Grade Appeals Committee may instruct that the course grade be upheld, raised, or lowered to a more proper evaluation.

## Tentative Schedule:

Note that the midterm exam is taken during week 4, but you must also complete new material and assignments that week- there is no break specifically for the exam.

| **Week** | **Content** | **Lectures** |
| --- | --- | --- |
| Week 1  1/11-1/17 | Chapter 1 review of graphs & functions is available/optional lectures 1-4  Section 2.1: Angles and Their Measure  Section 2.2: Trigonometric Functions: Unit Circle Approach | 1-4 (optional)  5-10 |
| Week 2  1/18-1/24 | Section 2.3: Properties of Trigonometric Functions  Section 2.4: Graphs of Sine and Cosine Functions  Section 2.5: Graphs of Tangent, Cotangent, Cosecant, and Secant Functions  Section 2.6: Phase Shift; Sinusoidal Curve Fitting | 11-13 |
| Week 3  1/25-1/31 | Section 3.1: The Inverse Sine, Cosine and Tangent Functions  Section 3.2: The Inverse Functions (continued  Section 3.3: Trigonometric Identities  Section 3.4: Sum and Difference Formulas | 14-15  20 |
| Week 4  2/1-2/7 | TAKE MIDTERM EXAM (ch 2 & 3.1-3.4) face-to-face 2/1-7, online 2/5-7  Section 3.5: Double-angle and Half-angle Formulas  Section 3.6: Product-to-Sum and Sum-to-Product Formulas  Section 3.7: Trigonometric Equations (I) | 21-22  16 |
| Week 5  2/8-2/14 | Section 3.8: Trigonometric Equations (II)  Section 4.1: Applications involving right triangles  Section 4.2: The Law of Sines  Section 4.3: The Law of Cosines | 17  23-25 |
| Week 6  2/15-2/21 | Section 4.4: Area of a triangle  Section 5.1: Polar Coordinates  Section 5.2: Polar Equations and Graphs  Section 5.3: The Complex Plane; De Moivre's Theorem | Heron’s  26, 28-31 |
| Week 7  2/22-2/28 | Section 5.4: Vectors  Section 5.5: The Dot Product  Section 5.6: Vectors in Space  Section 5.7: The Cross Product | 32-36 |
| Week 8  3/1-3/6 | Review and FINAL EXAM face-to-face 3/1-3/6, online 3/5-3/6 |  |

## Important Dates:

Class begins January 11

Initial Assignment due ………………………………. January 13

Last day to drop without record …………………January 19

Midterm Exam………………… face-to-face Feb 1-7, or online Feb 5-7

Last day to withdraw with “W” February 12

Last day to withdraw with a “WP/WF” February 19

Final Exam ……………………..Mar 1-6 face-to-face, or March 5-6 online

This syllabus is only a plan.  The teacher may modify the plan during the course.  The requirements and grading criteria may be changed during the course if necessary. 12/2/20