Math 128 – Trigonometry

Course Coordinator:	Dr. Matthew R. Schraeder	**Office:**	Armstrong 305E
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Office Hours:	W 7:00 PM – 8:00 PM (Group Zoom)	**email:**	lpyzdrow@math.wvu.edu
	Or by email appointment		

Note for emails: When sending an email, include "Math 128" in the subject. Please allow 24 hours for a response.

Note for office hours: Some hours will be conducted virtually. The specific information will be posted on eCampus.

Textbook: *Algebra and Trigonometry: Real Mathematics, Real People*, 7th ed, by Ron Larson
ISBN 9781337768382

Learning Outcomes:
Students successfully completing the course will be able to:
(1) describe angles in terms of degree measure and radian measure,
(2) calculate values of the standard trigonometric functions (sine, cosine, etc.) using properties of right angles,
(3) apply right angle trigonometry and trigonometric functions of general angles to relevant problems,
(4) model with trigonometric and inverse trigonometric functions,
(5) solve trigonometric equations and inequalities analytically, approximately, and graphically,
(6) utilize trigonometric identities to simplify expressions,
(7) recognize, create, modify, and interpret graphs of trigonometric and inverse trigonometric functions and define their domains and ranges,
(8) utilize the Law of Sines and Law of Cosines to solve problems related to oblique triangles.

Time Commitment: This course will require you to do much of your work outside of class. You should expect to spend at least 6 hours per week working on class material outside of class in order to earn a B or a C in this course.

Technology: We will be using the desmos scientific calculator and graphing apps. They are available at www.desmos.com. Please be respectful of the instructor and your classmates by using technology in a manner that is appropriate to the situation. You will be notified in advance of what technology is permissible on any given quiz or exam. Cell phones will never be allowed for quizzes or exams.

Grading Scale:

90% – 100%	A
80% – 89%	B
70% – 79%	C
60% – 69%	D
0% – 59%	F

Evaluation: Grades are based on achievement, not competition, and therefore are not "curved." All fractional points will be rounded down. Your grade will be determined by your performance in 5 categories:

	Assessment	Number	Points	Percent of Grade
1	In-Class Activities	29	100	10%
2	Quizzes	11	100	10%
3	Homework	15	100	10%
4	Tests	3	600	60%
5	Comprehensive Final	1	100	10%
	TOTAL			100%

Class Attendance: Math is not a spectator sport! It is expected that you will be active each week and participate. You must complete activities, take quizzes, and turn in homework assignments. If you miss a portion of this class due to an emergency, then you must contact your instructor BEFOREHAND to make arrangements to make up the assignments.

Information about WVU's attendance and leave policies can be found here:
http://catalog.wvu.edu/undergraduate/enrollmentandregistration/#Attendance

If you become ill and must miss and extended period of time, then refer to WVU's emergency leave policy:
http://catalog.wvu.edu/undergraduate/enrollmentandregistration/#Emergency

Calculators: You will only be permitted to use the calculator in WebAssign (or on certain assessments, your computer (scientific) calculator) for quizzes and exams. It is to your benefit to use those calculators as you complete your graded homework so that you are better prepared for exams.

Activities: There will be activities due every week. These activities will be due at 4:00 each Friday and graded on effort and completion. They will be worth 5 points each.

Quizzes: There will be quizzes given every week that there is not an exam scheduled. These quizzes will be due each Friday there is not an exam. They will be open each Friday. Quizzes make sure that students are keeping up with the material and understanding basic principles. Quizzes will be individual work. Quizzes will be completed on WebAssign, except for graphing and identities. You have up to 50 minutes to complete a quiz. WebAssign quiz *questions* may be attempted up to 3 times. After submitting the *question* response, you may try again. The third attempt of a question will be awarded only up to 85% of the total points possible. The lowest quiz score will be dropped. More specific directions for taking quizzes and exams will be posted in eCampus.

Midterm Tests and Final Exam: There will be three tests and a comprehensive Final Exam given on the dates indicated on the schedule included with this syllabus.

There will be no make-up quizzes or tests. The Final Exam grade will replace the lowest regular test grade if it is helpful to your grade (this includes a zero for missing a test due to illness, funeral, family emergency, travel, etc.). The Final Exam cannot be made up.

Homework: Homework forms an important and integral part of every mathematics course. For this course, homework will consist of a selection of problems from the text as well as some occasional supplemental problems. Homework will primarily be done online through WebAssign and will be due at 11:30 PM on Wednesdays. Each correctly solved problem is worth one point. You have 30 attempts at homework *questions, so check as you go*. For each problem that is completed at least 48 hours before the assignment is due, you may earn a quarter bonus point.

It is very important both for your understanding of the material and for preparing for exams that you work all the assigned problems as soon as the material is covered in class. Questions concerning the homework are always welcome. We will have a Zoom group office hour on Wednesday from 7:00 – 8:00 PM to address any questions. The sessions will be recorded for those who are unable to attend. I will remain in the zoom office hour for 10 minutes without participants, after that time I will close the session. There are many more problems in the book than will be covered in class or turned in as homework. It is your responsibility to work as many extra problems as needed to feel comfortable and confident with the material. The more problems you work, the better prepared you will be!

Inclusivity Statement: The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of

Accessibility Services (304-293-6700). For more information on West Virginia University's Diversity, Equity, and Inclusion initiatives, please see http://diversity.wvu.edu.

Academic Integrity: The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, instructors will enforce rigorous standards of academic integrity in all aspects and assignments of their courses. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the West Virginia University Academic Standards Policy: http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification/#text. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see your instructor before the assignment is due to discuss the matter.

If irregularities are recognized on any assignment, then students may be asked to verify their abilities with a knowledge check that is conducted live with the instructor (either in person or via video conference).

COVID-19 Statement: WVU is committed to maintaining a safe learning environment for all students, faculty, and staff. If a student becomes sick or is required to quarantine during the semester, they should notify the instructor. The student should work with the instructor to develop a plan to receive the necessary course content, activities, and assessments to complete the course learning outcomes. Exams and most quizzes will use Respondus Monitor for proctoring. In the event there is a problem with using this free application, it may be necessary to schedule assessments using Zoom proctoring at times made available by the course coordinator. If a student is unable to take tests during times made available to students, it may be necessary to pay an additional fee for assessment proctoring.

Grade Disputes: If you feel that a question was graded incorrectly on a quiz, lab, or test, then you MUST contact the instructor within 2 weeks of the release of the score. Any dispute brought up after 2 weeks will NOT be considered.

Remote Instruction: Weekly videos created by the course coordinator are provided in the eCampus shell. It is important that you keep up with watching those to be prepared for homework, quizzes, activities and exams. In addition to these videos, there will be a Zoom session on Wednesday evenings from 7 – 8 to address questions. I will remain in the zoom session for 10 minutes without participants, after that time I will close the session. The sessions will be recorded for those unable to attend and made available via the eCampus shell. There is a course Discussion Board. Course information will periodically be posted in that area. An initial post (as a reply to your instructor) is worth 5 bonus points that will be awarded at the end of the semester. This post is due by September 11.

Information about the class may be given during the video sessions, so it is imperative that you either attend each one or watch the recordings afterwards. Other information will be shared via email or on eCampus, so you should check both at least once per day for updates.

TIPS FOR SUCCESS:
- Do not be afraid to ask questions. Chances are, someone else has the same question, but does not want to ask it. You are doing yourself and others a favor. Math builds on itself. If you get behind or do not understand something, you will have a difficult time in the future.
- Read the book. It offers Examples and explanations.
- Use your notes. The homework will be based on the notes given in class. You take notes for a reason.
- When in doubt, do something. If you are unsure of what to do, try something that was covered in class. If that does not work, try something else. You can often learn more, or learn better, if you work through a problem by yourself after trying a few ways and learning what does not work.
- Don't be afraid to make a mistake or be wrong. Everyone makes mistakes and is wrong at some point. It won't be the first time. It won't be the last time. Learn from your mistakes.

- <u>Don't be afraid to take a chance</u>. If no one ever took chances, nothing new would ever get done, and life would be pretty dull.

    "I have not failed. I've just found 10,000 ways that won't work." – Thomas A. Edison

*This syllabus is subject to change at the instructor's discretion. It is critical that you be in class and check email/eCampus for updates.

<u>Practice Assignments for Trigonometry</u>

Section	Name	Problems
5.1	Angles and Their Measure	11 – 47 odd, 51 – 115 odd
5.2	Right Angle Trigonometry	1 – 83 odd
5.3	Trig Functions	1 – 6, 13 – 101 odd, 107 – 111 odd, 135 – 137 odd
5.4	Graphs of Sine and Cosine	9 – 77 odd
5.5	Graphs of Other Trig Functions	5 – 49 odd, 61 – 65 odd
5.6	Inverse Trig Functions	5 – 31 odd, 45 – 79 odd
5.7	Applications and Models	5 – 45 odd, 53 – 65 odd
6.1	Fundamental Identities	1 – 77 odd
6.2	Verifying Identities	1 – 73 odd
6.3	Solving Trig Equations	5 – 67 odd, 73 – 99 odd, 103, 107
6.4	Sum and Difference Formulas	1 – 6, 9 – 39 odd, 43 – 53 odd, 59 – 71 odd
6.5	Multiple-Angle and Product-to-Sum Formulas	1 – 8, 9 – 63 odd, 73 – 91 odd, 125
7.1	Law of Sines	7 – 49 odd
7.2	Law of Cosines	3 – 6, 7 – 23 odd, 25 – 30, 31 – 55 odd

There will be help available by course Learning Assistants and through the Math Learning Center. Information will be posted in the eCampus shell as it becomes available.

<u>Quizzes and Exams are scheduled for Friday</u>

<u>Tentative Schedule</u>

Day	Date	Section	Topic
R	8/20		No Classes
F	8/21		No Classes
T	8/25		No Classes
R	8/27		Intro, Syllabus, Function Review
F	8/28	Special Homework	Algebra Review
T	9/1	5.1	Angles and their Measures
R	9/3	5.2	Right Triangle Trig
F	9/4	Quiz 1	5.1
T	9/8	5.2	Right Triangle Trig
R	9/10	5.3	Trig Functions
F	9/11	Quiz 2	5.1 – 5.3
T	9/15	5.4	Graphs of Sin and Cos
R	9/17	5.4	Graphs of Sin and Cos
F	9/18	Quiz 3	5.4
T	9/22	5.5	Graphs of Other Trig Functions
R	9/24	5.5	Graphs of Other Trig Functions
F	9/25		**Test 1 (5.1 – 5.4)**
T	9/29	5.5	Graphs of Other Trig Functions
R	10/1	5.6	Inverse Trig Functions

F	10/2	Quiz 4	5.4 – 5.5
T	10/6	5.6	Inverse Trig Functions
R	10/8	5.7	Applications and Models
F	10/9	Quiz 5	5.4 – 5.6
T	10/13	5.7	Applications and Models
R	10/15	6.1	Fundamental Identities
F	10/16	**Test 2 (5.5 – 5.7)**	
T	10/20	6.2	Verifying Identities
R	10/22	6.2	Verifying Identities
F	10/23	Quiz 6	6.1 – 6.2
T	10/27	6.3	Solving Trig Equations
R	10/29	6.3	Solving Trig Equations
F	10/30	Quiz 7	6.3
T	11/3	**Election Day – No Classes**	
R	11/5	6.3	Solving Trig Equations
F	11/6	Quiz 8	6.3
T	11/10	6.4	Sum and Difference Formulas
R	11/12	6.4	Sum and Difference Formulas
F	11/13	Quiz 9	6.3 – 6.4
T	11/17	6.5	Multiple-Angle and Product-to-Sum Formulas
R	11/19	6.5	Multiple-Angle and Product-to-Sum Formulas
F	11/20	**Test 3 (6.1 – 6.5) – Last day to drop a class**	
T	11/24	7.1	Law of Sines
R	11/26	**Thanksgiving Break – No Classes**	
F	11/27	**Thanksgiving Break – No Classes**	
T	12/1	7.2	Law of Cosines
R	12/3	7.1, 7.2	Applications of Laws of Sines and Cosines
F	12/5	Quiz 10	7.1 – 7.2
R		**Final Exam**	