FAIRMONT STATE UNIVERSITY

Trigonometry

Math 1540-003 || CRN: 20859 || Spring 2023

Instructor: Dr. Tom Cuchta
Email: tcuchta@fairmontstate.edu
Time: MWF 9:00-9:50
Location: ET 433
Office: ET 423
Drop-in office hours: Please see my website for the times when I have scheduled my daily office hours: http://tomcuchta.com. Office hour times may change without notice; the website will always contain my current official schedule. Alternate times may always be scheduled by email.
Class webpage: http://tomcuchta.com/teach/classes/2023/MATH1540-Spring2023-FairmontState/
Textbook: "Algebra and Trigonometry" by OpenStax
(freely downloadable at https://openstax.org/details/books/algebra-and-trigonometry)
Course description: This course includes a study of circular and trigonometric functions and applications, trigonometric identities, equations and graphs of circular functions, functions and inverse functions, vectors, and other related topics.
Prerequisites: MATH ACT score of 23 or old MATH SAT of 540 or New Math SAT 570 or ACCUPLACER Elementary Algebra 85 or ACCUPLACER College Level Math 55 or a "C" or better in MATH 1112 or a "C" or better in MATH 1430 or a "C" or better in MATH 1530 or "C" or better in Pierpont MTH 1212
Tech requirements: Written homework will be regularly submitted to Blackboard. Online homework will be done via WeBWork. Some free online calculators and function plotters (e.g. WolframAlpha, Desmos, CalcPlot3D) will be used, but students are not assumed to know how to use them in advance.
Course delivery: Our course will meet in-person. There will be no synchronous streaming.
Attendance policy: Attendance itself will ***not*** be recorded for a grade. If a class is missed, then it is the ***student's responsibility*** to find out what was missed.
Exams: There will be three regular exams and a final exam in this course. The final exam is worth double.
Coursework: You will receive work in this course in various "grade categories", described on the next page. The following standard scale applies to exams and online homework:

Grade	Percentage
A	$\geq$90% of points
B	$\geq$80% of points
C	$\geq$70% of points
D	$\geq$60% of points

Your quiz work and written homework will be given on a grade as follows:

A	B	C	D	F
+4 points	+3 points	+2 points	+1 point	+0 points

- "A" (+4) – excellent; perfect submission, no errors;
- "B" (+3) – good; nearly perfect maybe with some errors (e.g. arithmetic);
- "C" (+2) – some problems; there are some issues but you are on the right track;
- "D" (+1) – tried; there are fundamental issues or misunderstandings but it is clear that you made an honest attempt; and
- "F" (+0) – not gradable; does not seem to contain an honest attempt at the work.

Written homework: Written homework is comprised of problems that will be assigned on the class webpage and submitted through Blackboard. Generally speaking, there will be approximately **one** such assignments per week of class, but there occasionally can be more than that. Grades of B, C, D, or F will receive feedback from the instructor that must be addressed if the student chooses to revise the submission. **Written work that contributes to the problems of any exam must be first submitted within 1 week of that exam's date (with the obvious exception of the final exam).**

Revisions must come with a reflection essay, at least two paragraphs long, containing **both** a description of what went wrong with the student's thinking and approach in the first submission **and** a description of what was done to improve it in the resubmitted version. Only problems identified in the feedback need to be revised, but the ***whole*** problem should be rewritten (not just "corrected"). Improperly formatted revisions will be returned with the grade of F.

The highest score among all submissions will be the one that counts for the grade.

Online work: Online homework will be administered through the Fairmont State instance of WeBWorK, which can be found at `https://csmath.fairmontstate.edu/webwork2`. Homework may be attempted an infinite number of times, and the highest point score earned will be counted.

Quizzes: Quizzes will be regularly given in class and will not be announced in advance. Expect about one quiz per week, but occasionally more.

Accessing WeBWork: The online homework is provided for **free** by Fairmont State University at our WeBWork server. This server can be accessed on campus by going to `https://csmath.fairmontstate.edu`. If you are off campus, then you will need to use the Fairmont State cloud service to access the online homework system. See the following webpage for an explanation of reaching WeBWork from off-campus: `http://tomcuchta.com/fsucsmathserver`.

Final grade: Each grade category (written HW+quizzes, online HW) will receive a letter grade for each 5 week period based on the work that was due in that 5 week period compared to the grading scale. Consider the following chart of possible grades in a semester:

5 Wk. Period	Written HW + Quizzes	Online HW	Total Grade
1	C (+2)	B (+3)	+5
2	B (+3)	A (+4)	+7
3	A (+4)	C (+2)	+6

The four exam scores (three exams + one final counting double) contribute another possible 20 points. The total in the last column in the table plus the points from exams are divided by 44 to obtain the percentage score for the course. For example, if the student obtained the following scores on exams: A, B, C, B, then they gained an additional 4+3+2+3*2=15 points along with their 5+7+6=18 to get 15+18=33 points out of a possible 44 which is 75%, a C.

LEAD Center: The Learning Enrichment and Academic Development Center (LEAD) is located on the second floor of the library and provides students with free support resources, including learning assistance in a wide range of courses. The LEAD Center opens no later than the second week of classes. To book an appointment, see more information on services, hours, or a list of current workshops, visit `https://www.fairmontstate.edu/academics/lead-center`. You may also contact the coordinator Brittany Cuchta at `lead@fairmontstate.edu`.

Cheating: I encourage you to work together, to attend tutoring, and to seek out help from me. However, copying the work of others and not putting in an honest effort yourself is not acceptable. If you are caught cheating on any assignments, then you will forfeit any points on that assignment with no possibility of revision. If you are caught cheating more than once, then you may receive an "F" in the course.

Safety: We follow the university guidelines, which may change as the semester progresses. See the current university policy pertaining to the coronavirus here: `https://www.fairmontstate.edu/coronavirus`. Those who prefer to always wear a mask are encouraged to do so.

Student handbook: http://www.fairmontstate.edu/publications/campushandbooks/studenthandbook/default.asp

Accessibility support: Accessibility services are available to any student, full or part-time, who has a need because of a documented disability. It is the student's responsibility to register for accessibility services and to provide any necessary documentation to verify the need for accommodations. Students must provide their professors with a copy of their academic accommodation letter each semester in order to receive accommodations. Faculty, students, and the Office of Accessibility Services must cooperate to ensure the most effective provision of accommodations for each class.

The Office of Accessibility Services is located in 237 Hardway Hall. For additional information, please call (304) 367-4543.

Learning outcomes:

1. Use trigonometric functions to model and solve real world problems and determine if solution is reasonable.
2. Use trigonometric functions to solve problems using appropriate symbolic manipulation skills.
3. Use the language of mathematics to determine relationships and patterns in graphs and characteristics of circular trig functions using pre-requisite knowledge of graphing techniques of common functions.
4. Develop and evaluate mathematical arguments and proofs in order to recognize that reasoning and proof are fundamental to mathematics.

Estimated Math 1540-001 Calendar Spring 2023

Week	**Sections**
16 Jan – 20 Jan	16 January: ***MLK Day – no classes***
23 Jan – 27 Jan	
30 Jan – 3 Feb	
6 Feb – 10 Feb	10 February: ***EXAM 1***
13 Feb – 17 Feb	
20 Feb – 24 Feb	
27 Feb – 3 Mar	
6 Mar – 10 Mar	***SPRING BREAK – NO CLASSES***
13 Mar – 17 Mar	
20 Mar – 24 Mar	24 March: ***EXAM 2***
27 Mar – 31 Mar	
3 Apr – 7 Apr	
10 Apr – 14 Apr	
17 Apr – 21 Apr	21 April: ***EXAM 3***
24 Apr – 28 Apr	
1 May – 5 May	1 May: ***LAST REGULAR DAY OF CLASSES*** 2 May–5 May: ***FINAL EXAMS***