



MATH 4A ONLINE: TRIGONOMETRY  
FALL 2018

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### Instructor Information

- Ms. Kelsey Friesen
- When you need to get in contact with me, please message me through the Canvas messaging system. If Canvas is down (fingers crossed that never happens), then please email me @ [kelsey.friesen@reedleycollege.edu](mailto:kelsey.friesen@reedleycollege.edu).

### Course Information

Welcome to Math 4A, trigonometry! Our section number is 59686. This is a 100% online class, which means you will never be required to come to campus. All assignments and exams will be done online.

### Course Description

The study of trigonometric functions, their inverses and their graphs, identities and proofs related to trigonometric expressions, trigonometric equations, solving right triangles, solving triangles using the Law of Cosines and the Law of Sines, polar coordinates, and introduction to vectors.

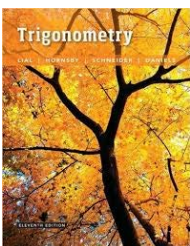
- Advisories: Eligibility for English 125 and 126
- Prerequisite(s): Mathematics 102 and 103 or equivalent
- Credits: 4

### Course Materials

Required: MyLab access (MyLab includes an e-text copy of the textbook, so you are not required to have a physical copy of the book). You will set up your MyLab account through Canvas. There is a MyLab and Mastering tab on the left hand side of the Canvas page.

Required: Calculator. I recommend a graphing calculator, such as a TI-83, TI-84, or TI-89 (TI stands for Texas Instrument). If you do not want to purchase a calculator, there are free online calculators available. I love to use Desmos <https://www.desmos.com/>.

Optional: *Trigonometry* 11<sup>th</sup> edition by Lial. ISBN: 978-0134217437



## Student Learning Outcomes

Upon completion of this course, students will be able to:

- Provide and analyze graphs of trigonometric functions.
- Apply trigonometric techniques to solve problems in real world contexts.
- Derive, use and prove trigonometric properties and identities.
- Produce solutions to equations using skills developed in trigonometry.

## Course Objectives

In the process of completing this course, students will:

- Identify special triangles and their related angle and side measures;
- Evaluate the trigonometric function of an angle in degree and radian measure;
- Manipulate and simplify a trigonometric expression;
- Solve trigonometric equations, triangles, and applications;
- Graph the basic trigonometric functions and apply changes in period, phase and amplitude to generate new graphs;
- Evaluate and graph inverse trigonometric functions;
- Prove trigonometric identities;
- Convert between polar and rectangular coordinates and equations;
- Graph polar equations;
- Calculate powers and roots of complex numbers using DeMoivre's Theorem; and
- Represent a vector (a quantity with magnitude and direction) in the form  $a_i + bj$ .

## Lecture Content

- Rectangular coordinates, angles and circular/radian measure;
- Definitions of the six trigonometric functions according to the right triangle, the unit circle, and the rectangular coordinate system;
- Applications of the right triangle;
- Simplification of trigonometric expressions;
- Proofs of trigonometric identities;
- Graphs of trigonometric functions: period, amplitude, phase shift, asymptotes;
- Inverse trigonometric functions and their graphs;
- Trigonometric equations;
- Solving Triangles: Law of Sines and Law of Cosines;
- Polar coordinates and equations; and
- DeMoivre's Theorem and applications
- Introduction to vectors.

## Grading

You can see your assignment grades and overall class grade anytime **in Canvas**. The gradebook in MyLab will not include the discussion grade, so that grade is not a correct reflection of your overall class grade. Your overall class percentage is broken down as follows:

- Exams and Final Exam: 50%
- Assignments: 35%
- Quizzes: 10%
- Discussions: 5%

Based on your overall class percentage, letter grades will be assigned based on the following intervals:

89.5 - 100% A

79.5 - 89.4% B

69.5 - 79.4% C

59.5 - 69.4% D

0 - 59.4% F

## Assignments/Quizzes/Discussions

All assignments and quizzes for this class will be done through MyLab or will be submitted through Canvas. You will have unlimited time and attempts for all questions in each assignment. The quizzes will be timed, but you can take each quiz as many times as you like and your best score will be saved. Details of each assignment and due dates can be found under the assignments tab on the left side menu of the Canvas page. All discussions with prompts and due dates will be found under the discussions tab on the Canvas page.

## Late Work

Managing your time correctly will be crucial in successfully completing this class. I know that sometimes we do get behind, so here are the late policies for each category:

- Assignments – once the due date and time have passed, unfinished assignments are considered late. You still can work on the assignment, but you will only receive 60% of the credit on the late work (way better than a zero!). Work done before the due date will of course get full credit.
- Quizzes – you can use a one business day extension on **one** quiz. Just send me a message letting me know that you want to use your extension. As an example, if the Chapter 2 quiz is due Monday at 11:59 pm and you miss it and want to use that as your extension, I would go in and open it and extend it until the next day, Tuesday, at 11:59 pm.
- Discussions – there are no extensions for discussions. If you miss one, you do not receive the credit for participation.

## Extra Credit

There will be a few extra credit opportunities, so take advantage of them! Extra credit opportunities will be made clear and available to everyone in the class. To be fair, no individual extra credit assignments will be given (so don't count on that at the end of the class).

## Exams

This course will follow the layout of the textbook, beginning in chapter 1 and ending in chapter 8. You will have three chapter exams: Exam 1 on chapters 1 and 2, Exam 2 on chapters 3 and 4, and Exam 3 on chapters 5 and 6. The content from chapters 7 and 8 will make up a majority of the final exam. All exams will have equal weight in your overall class grade percentage. **No make up exams will be given for any reason** (see final exam portion for more information).

## Final Exam

There will be a **mandatory** final exam at the end of the class. The majority of it will be on chapters 7 and 8, but will also include topics covered in the previous exams. Because there are no make-up exams, if a student misses an exam then the final exam score will go in for that grade. If a student has not missed any exams, then the final exam will go in for the lowest exam given the final score is higher. As an example, say your exam scores are 80%, 65%, and 78% and you receive an 85% on the final. Then in the gradebook, you would have an 85% for the final, and the Exam 2 that used to be a 65% would become an 85%.

## Technology

As a student of SCCCD, you are given a free student email account. Make sure you are able to login to this account and check it on a regular basis (at least once a day). You can also set it up through your smart phone if you have one and set up email alerts so that you never miss anything important. Your student email is the official way your instructors communicate with you outside of class. In addition to your email account, you also have a Canvas account set up by the college. I will use Canvas to post homework, make announcements, keep track of grades, ect. Make sure you have access and sign in on a regular basis.

Access to reliable internet is mandatory for success in this class. If you do not have access to the internet from home, you need to figure out places you can go to work. ***Not having access to the internet or any other technology issues are NOT an excuse for incomplete work. You need to have a back up plan in the event that you do have an issue.***

## Resources

- Your instructor
- Your fellow students
- MyLab resources – the textbook, lecture videos, power point slides ect.
- FREE online tutoring through Smarthinking. You will see the tab on the left hand side menu of the Canvas page.
- Online resources: Khan Academy, YouTube, any other websites you find that are helpful (please share with the rest of the class).
- If you are able to come to the Reedley College campus, you can get FREE tutoring in either the Math Center, which is located in the FEM (Forestry, Engineering, Math) building, or the tutorial center, which is located in the library.

## College Policies

### Accommodations for Students with Disabilities

If you have a verified need for an academic accommodation or materials in alternate media (ie: Braille, large print, electronic text, etc.) per the American With Disabilities Act or Section 504 of the Rehabilitation act please contact me as soon as possible.

### Academic Dishonesty

``Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences" (Reedley College Catalog pg 49).

### Cheating

``Cheating is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another's work, supplying one's work to another, giving or receiving copies of examinations without an instructor's permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely" (Reedley College Catalog pg 49).

### Student Rights

``Student rights are protected by federal and state laws, and by policies established by the trustees of the State Center Community College District. It is therefore essential for the protection of students' rights that procedures be established and followed which would identify violations of student conduct standards and the resolutions of such violations. Students have a right to an oral or written notice (reasons for disciplinary action), an opportunity for a review, and a decision given orally or in writing. For more information contact the Vice President of Student Services' office. (Board Policy 5520, Administrative Regulation 5520)" (Reedley College Catalog pg 49).

## Important Dates

- Monday August 13<sup>th</sup> : Start of the semester
- Friday August 24<sup>th</sup> : Last day to drop a full term (18 week) course for a full refund
- Sunday September 2<sup>nd</sup> : Last day to drop the class and NOT receive a W (withdraw). It is as if you were never in the class.
- Monday September 3<sup>rd</sup> : Labor Day Holiday, no classes, campus is cancelled
- Friday October 12<sup>th</sup> : Last day to drop a full term class and receive a W instead of a letter grade. If still enrolled after this date you are dedicated to getting a letter grade for the class.

- Monday November 12<sup>th</sup> : Veterans Day Holiday, no classes, campus open
- Thursday and Friday November 22-23 : Thanksgiving Holiday, no classes, campus closed
- Monday – Friday December 10 – 14: Final exam week. **Our final is due Friday December 14<sup>th</sup> at 11:59 pm.**

\*\*\* This syllabus is subject to change at the discretion of the instructor.