MATH 335 — LOS RIOS/CRC
TRIGONOMETRY WITH COLLEGE ALGEBRA — SPRING 2023
5 UNIT(S) — SECTION # 14258

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Email is the primary and the most reliable way of contacting the instructor. Either address should work. When emailing, please always specify your real name (the same one as in the roster) and which class you are inquiring about. Emails omitting this information may fail to be processed.

Office: LRC 150, (916) 691-7086, MTuWTh 10:00 – 10:40 am

Please let the instructor know if these hours do not work for you, and we can try to set up an appointment (allow 2 business days for reply).

Class Meetings: Winn Center 255, Tuesday and Thursday 6:00 – 8:20 pm.

Required Materials: *Trigonometry*, 10th edition, by Larson. Online access is not required, so you may be able to get the correct edition at a discounted price, if you buy used. The students are responsible for obtaning the text (digital/online version is OK) and reading every section covered in class and/or assigned for homework.

You will be required to obtain a **printed** copy of *Trig Lab Manual* (do not print it yourself without being advised by the instructor). You are also responsible for bringing the relevant portions of the lab manual to every class meeting.

Catalog Description: This is a full trigonometry course with algebra concepts reviewed, extended, and integrated when they are relevant to the trigonometric concepts. The trigonometric topics include right triangle trigonometry, unit circle trigonometry, graphs of trigonometric functions, proofs of trigonometric identities, solving trigonometric equations, applications of trigonometric functions (law of sines and cosines), and inverse trigonometric functions. The algebra topics include exponential and logarithmic functions, complex numbers, conic sections, the polar coordinate system, and solving equations, inequalities, and systems of equations.

Methods of Instruction: Class meetings will feature a mix of lecture, discussion, quizzes/labs, and group assignments. The instructor may assign students into teams for group assignments, and reassign teams at any time during the semester. Several in-class tests will be given.

Attendance: To succeed in this course, it is crucial that you attend every class session, alert and prepared to learn. Roll will be taken for each class session, usually at the beginning of the class. If you arrive after the class has started, please enter the room quietly and get on the roster at the end of the class. If you miss more than a half of a class session for any reason, you will be considered absent for that whole session. **If you miss the total of 6% of class time or more, you may be dropped from the class** (missing one whole week will put you over 6% in most cases). These absences need not to be consecutive, and **any** class time you miss may be added to the total. Exceptions to this policy will be made **at the instructor's discretion** for documented cases of grave illness and/or family emergency. In other words, the instructor reserves the right to drop you at any time after your unexcused absences total 6% or more, regardless of any other circumstances.

If you miss the first class meeting without notifying the instructor or the division administrator in advance, you may be dropped from the class. If you have to be removed from the first class meeting due to a discipline issue, you may be dropped from the class.

By default, only the students enrolled in this class can attend the class sessions. If you are planning on bringing a visitor, you should try to notify the instructor in advance. Exceptions will be made at the instructor's discretion on a case-by-case basis.

`https://crc.losrios.edu/admissions/enroll-in-classes/grading-policies-and-academic-regulations`

Written Assignments: All written assignments, including but not limited to the homework, tests, labs, and the final, should be done in **dark pencil or pen**; black, **dark gray**, **dark blue**, and **deep purple** are preferred. Fancy colors such as **green**, **red**, or **pink** can only be used to augment graphs and illustrations.

Once assignments are graded, the instructor will bring them to class and distribute them back to students. If you are not present on that day, then you can pick up your graded assignments during the office hours. All written assignments except for the final exam will be securely destroyed after your class grades are submitted to the district.

Homework: Homework serves as practice and will prepare you to do your best on labs and tests. About 20% of the lowest homework grades will be dropped. Homework is crucial for learning the material as well as for succeeding in this class. Doing all homework is probably the most effective way to raise your test grades. You are welcome to work in groups while solving the homework, but you must submit your own work.

Homework in this class is not intended as the primary means of feedback. The students are expected to check and judge their own work by using answers, whenever the textbook provides them, and/or by discussing the homework with the instructor during the office hours. Typically, the instructor will only check a very small and somewhat random portion of the homework for accuracy.

Late homework will be accepted with a simple fixed 5% penalty per day past due. **When submitted on paper, late homework** must be clearly marked as late, and show at the top the date it was originally due, as well as the date it was actually submitted. Without that information, the late homework will not be processed.

Quizzes/Labs: In-class assignments will be given during some class sessions, typically without any advance warning. **No make-up quizzes/labs will be given for any reason.** 20% or so of the lowest scores will be dropped.

Tests: There will be several tests. **No make-up tests will be given for any reason.** If you are not present for the test, zero will be entered as your grade for that test. If you miss a test due to a documented case of grave illness and/or family emergency, you will have an option to use your comprehensive final exam grade to replace that zero, but only **at the instructor's discretion**.

Final: The 2 hour comprehensive final exam will be given on the date determined by the official final exam schedule:

`https://crc.losrios.edu/admissions/academic-calendar-and-deadlines/final-exam-schedule`

The final date and time is determined by the College District before the semester starts. You must plan to be present at the final. If your schedule precludes you from being present at the final, you must inform the instructor in writing during the first two weeks of instruction. If you are not present at the final, "F" will be entered as your grade for the class.

Grading:

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

Grade Breakdown	
Homework	10%
Labs/Quizzes	10%
Tests	60%
Final	20%

Extra Credit: Some ways to get extra credit in this class are:

(1) visit the instructor's office hours

(2) be first to point out a typo or an error in any of the printed materials created by your instructor

Getting more than 1% of the total class grade from extra credit is extremely rare. The instructor reserves the right to set or change the maximum allowed amount of extra credit per student, and can do so at any time during the semester.

Getting Help: If you have a question or a concern not addressed in this syllabus, please contact your instructor via email (allow 2 business days for reply). Moreover, the campus provides some resources to help you study:
`https://crc.losrios.edu/student-resources`

Tutoring: The CRC Tutoring Center provides academic support services to CRC students. The Center facilitates drop-in tutoring, study skills coaching, study groups, and more.
`https://crc.losrios.edu/student-resources/tutoring`

Additional tutors are available at the Math Center, which helps students to develop confidence and proficiency in their math skills. You must enroll in a variable unit course in order to use the Math Center.
`https://crc.losrios.edu/student-resources/tutoring/math-center-at-crc`

Computers: The use of computers and tablets during regular class meetings is OK as long as they are used for class work and are completely silent. While taking tests and the final, only the approved non-networked calculators and/or computers running approved software will be allowed. If in doubt, you should consult with the instructor and get your devices pre-approved prior to the test date. **Using tablets or computers for anything but the current assignment in this class may result in you being removed from the classroom until the end of the session, which will count as an unexcused absence.**

Forbidden Tech: Spyphone/smartphone use is prohibited while the class is in session. In particular, they can never be used as calculators. Computerized watches can be used for showing current time only, and may have to be stowed away during tests. **Using the tech listed above in violation of this syllabus may result in you being removed from the classroom until the end of the session, which will count as an unexcused absence.**

Required Tech:

A **non-graphing, non-networked** calculator with support for trig functions and inverse trig functions is required. While not sctrictly necessary, it is also advisable to have a 4-function calculator, some graph paper, a straightedge, some bright-colored pens, pencils, and/or highlighters, as we will be making plenty of graphical displays.

Accommodations: Disability Support Programs & Services (DSP&S) provides equal educational opportunity for students with physical, psychological, or learning disabilities. Counseling, support services, and academic accommodations are provided to students who are eligible for the program.

The Cosumnes River College Learning Disabilities Program can provide support services and academic accommodations to students who have documentation of a specific learning disability from another school or professional. In addition, Diagnostic Assessment may be available for appropriately referred students who come to the DSP&S program for an orientation appointment.

If you have a learning disability, a physical disability, or other special needs, please let the instructor know as soon as possible if you need special accommodations.

Students have the right to request reasonable modifications to college requirements, services, facilities or programs if their documented disability imposes a functional educational limitation or impedes access to such requirements, services, facilities, or programs. A student with a disability who will be requesting modification, accommodation, or access to an auxiliary aid is required and responsible for identifying himself/herself to the instructor and, if desired, to the Disabled Students Programs and Services (DSP&S office). In either event, **the student is responsible for providing appropriate documentation of his/her disability before we can accommodate**. Students who consult or request assistance from the DSP&S office regarding specific modifications, accommodations or use of auxiliary aid will be required to meet timelines and procedural requirements established by the DSP&S office.

`https://crc.losrios.edu/student-resources/support-services/disability-support-programs-and-services`

Academic Honesty: Any instance of plagiarism and/or cheating will result in the score of zero for that homework, quiz, or test, and will be reported to the Vice President's office.

`https://crc.losrios.edu/about-us/our-values/student-rights-and-responsibilities/plagiarism-and-cheating`

Meta: The instructor reserves the right to make changes to this syllabus throughout the semester. All relevant changes will be announced in class, and an updated version of the syllabus will be published online. Students are responsible for keeping up with these changes.

Student Learning Outcomes: This section is here for reference only. It may be useful to consult as you are preparing for the final exam. Upon successful completion of this course, the student will be able to

- Cite the six fundamental trigonometric functions and be able to interpret and evaluate them
  - define the trigonometric functions using right triangles and/or the unit circle
  - evaluate the trigonometric functions using reference angles and special triangles
  - calculate the values of the trigonometric functions using a calculator with angles in both degrees and radians
- Solve application problems by modeling them with appropriate functions
  - recognize what type of function might be best to use in a given situation to model an applied problem
  - distinguish between the various ways of solving application problems with trigonometric methods including the use of right triangles, oblique triangles, the law of sines, and the law of cosines
  - use a polynomial, rational, exponential, logarithmic, or trigonometric function to model and solve an application
  - analyze applications involving exponential and logarithmic growth and decay
- Graph a library of functions including trigonometric, polynomial, rational, absolute value, exponential, and logarithmic functions
  - recognize a base graph when given the formula for a complex function
  - employ the use of translations, reflections and nonrigid transformations to graph a function once the base graph is known
  - express the domain and range of a function in interval notation given a formula or a graph of the function
  - recognize important characteristics of graphs of functions including asymptotic behavior, periodic behavior, zeros, and end behavior patterns
  - identify a function as even, odd or neither and be able to prove result
  - extend quadratic functions to include methods for finding vertices, finding and interpreting intercepts, and minimizing and maximizing functions
  - graph points and curves in the polar coordinate system
- Categorize types of equations, systems and inequalities and methods used to solve them
  - employ algebraic and graphical methods to solve polynomial, rational, and absolute value equations, systems and inequalities
  - use matrix methods to solve systems of equations including the Gauss-Jordan method
  - recognize when to use logarithms to solve an equation
  - integrate algebraic techniques with known identities to prove trigonometric identities
  - solve trigonometric equations and be able to express solutions when restricted to an interval or when there are an infinite number of solutions
  - use inverse trigonometric functions to solve an equation
  - use sign graphs and graphs of functions to solve inequalities
- Manipulate mathematical expressions to accomplish a specific goal
  - simplify and factor expressions when solving equations, working with rational expressions, and finding the difference quotient
  - employ properties of exponents and logarithms to manipulate expressions
  - use trigonometric identities to rewrite or expand an expression and to do proofs
  - write equations of conic sections in standard form to graph them
  - analyze conic sections using foci, directrices and asymptotes