COMMUNITY COLLEGE

COURSE SYLLABUS

Course Details

Course Name	College Trigonometry
Course CRN and Term	21210
GT Pathways Category	GT-MA1
Credits and Delivery Method	3 Credits, Remote
Time Expectation	9 hours per week
Location	Remote
Meeting Dates and Time	8:15 – 9:30 a.m.
Instructor	Harry S. (Steve) Mills
Instructor E-mail	hmills1@online.aims.edu
Instructor Office Location Instructor Phone Number	EDBH 134K 970-290-0550
Office Hours	TBA
Drop/Add	January 27th, 2021 Your ability to add courses after this date may be limited. See your advisor for assistance with class scheduling.
The course withdrawal date for this course is	April 7th, 2021 Remember, withdrawal does not come with any reductions or refunds in tuition. A withdrawal will also place a "W" grade on your transcript. Please contact your advisor to see if a withdrawal is appropriate given your specific situation.
Other Important Dates	https://www.aims.edu/student/schedule/calendars/
Student Services	https://www.aims.edu/student/services.php

Course Requirements

Prerequisite(s)	MAT 121 College Algebra or higher, all with grade of C or better, or assessment.
Co-requisite(s)	None
Standards of Behavior & Policies – These statements apply to every course at Aims Community College and are hereby incorporated into this document.	Closely review these policies at: https://www.aims.edu/policies/standard-syllabus/
Materials	Trigonometry, by Larson, 10th Edition, ISBN: 9781337278461 is the textbook, officially, but we'll be doing homework on WebAssign, which comes bundled with eBook. Go to webassign.net and register for the course: Instructor: Steve Mills Class Key: **aims 6937 5485** WebAssign is the bare-minimum investment. If it's between that and buying the book, then get the WebAssign.
Other	

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Course Information

Course Description:

Begin Boilerplate. You may safely skip down to Page 5. For a *practical* idea of what's covered, see the Course Schedule on harryzaims.com for this course. Then look up the sections covered in the Table of Contents of the textbook or the eBook on WebAssign. That'll tell you what we're covering and when.

Course Learning Outcomes – According to the Colorado Community College Common Course Database, upon completion of this course, the student/learner should be able to:

1. Utilize basic definitions of trigonometric concepts.
2. Extend concepts of trigonometry to solve application problems.
3. Apply the six inverse trigonometric functions.
4. Graph trigonometric functions.
5. Make use of trigonometric identities.
6. Utilize methods of analytic trigonometry to solve trigonometric equations.
7. Apply definitions of the polar coordinate system to perform operations in the rectangular, polar and complex systems.

Topical Outline – These topics will be covered in class, but not necessarily in this order:

I) Basic definitions of trigonometric concepts
a) Radian and degree measure conversion
b) Definition of the six trigonometric functions using right triangles
c) Fundamental trigonometric identities
d) Trigonometric functions on the unit circle
e) Reference angles
f) Coterminal angles
II) Concepts of trigonometry to solve application problems
a) Applications of right triangles
b) Arc length
c) Area of a sector
d) Angular and linear velocity
e) Law of Sines
f) Law of Cosines
III) Six inverse trigonometric functions
a) Definition of the six inverse trigonometric functions
b) Evaluation of inverse trigonometric expressions
c) Domain and range of the inverse trigonometric functions
d) Compositions of trigonometric and inverse trigonometric functions
IV) Trigonometric functions
a) Graphing the six trigonometric functions with transformations
b) Graphing the six inverse trigonometric functions
c) An introduction to combinations of trigonometric and algebraic functions

V) Trigonometric identities
a) Fundamental trigonometric identities (reciprocal, quotient and Pythagorean)
b) Sum and difference trigonometric identities
c) Double and half angle trigonometric identities
d) Cofunction trigonometric identities
e) Even and odd trigonometric identities
f) Proving and verifying non-standard trigonometric identities
VI) Methods of analytic trigonometry to solve trigonometric equations
a) Using trigonometric identities to simplify equations and expressions
b) Solving trigonometric equations
VII) Definitions of the polar coordinate system to perform operations in the rectangular, polar and complex systems.
a) Converting points and equations between rectangular and polar form
b) Graphing polar equations
c) Trigonometric form of complex numbers

State General Education and Common Learning Outcomes: (for GT Pathways Courses)

Insert the required state general education common learning outcomes from the state website found at this link:

Competency: Quantitative Literacy:
Students should be able to:

1. **Interpret Information**
    a. Explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words).
2. **Represent Information**
    a. Convert information into and between various mathematical forms (e.g., equations, graphs, diagrams, tables, words).
3. **Perform Calculations**
    a. Solve problems or equations at the appropriate course level.
    b. Use appropriate mathematical notation.
    c. Solve a variety of different problem types that involve a multi-step solution and address the validity of the results.
4. **Apply and Analyze Information**
    a. Make use of graphical objects (such as graphs of equations in two or three variables, histograms, scatterplots of bivariate data, geometrical figures, etc.) to supplement a solution to a typical problem at the appropriate level.
    b. Formulate, organize, and articulate solutions to theoretical and application problems at the appropriate course level.
    c. Make judgments based on mathematical analysis appropriate to the course level.
5. **Communicate Using Mathematical Forms**
    a. Express mathematical analysis symbolically, graphically, and in written language that clarifies/justifies/summarizes reasoning (may also include oral communication).

Aims Common Learning Outcomes – These outcomes define the expectations of an Aims Community College education and provide the benchmarks against which the college holds itself accountable. Find the outcomes at

https://www.aims.edu/prospective/common-learning-outcomes.php

END BOILERPLATE

Course Delivery Method Remote lecture, video archives.

Code of Conduct

In an effort to keep our college community safe, students are expected to comply with health guidelines as directed by the College, public health officials, and/or ordinance of a municipality, county, Governor of the State of Colorado or any Executive Order of the President of the United States. A complete copy of the Student Code of Conduct can be found at www.aims.edu/student/conduct.

And we'll use that Student Code of Conduct any time a student forgets common sense and common courtesy. You remember those 2 things and refrain from cheating, then nothing more need be said.

Face Coverings

To help mitigate the transmission of COVID-19, it is required that all students wear masks or other face coverings in classrooms, laboratories and other similar spaces where in-person instruction occurs. The masks/face coverings must cover both nose and mouth, be worn for the duration of class, inside all college buildings, and outside whenever you are or are likely to come within 6 feet of another person. Students who do not comply with face covering and social distancing expectations will be asked to leave class and referred to the Dean of Students. We are a community of care and together we will work to ensure we can all engage in learning in the safest way possible.

Reuse of Instructional Materials

Reuse or distribution of instructional materials (i.e. PowerPoints, videos, class recordings, assessments, etc) or student created content (i.e. online discussion posts, presentations, etc) without approval is prohibited.

- **Attendance** – Your attendance will be measured primarily by your progress on the homework on WebAssign. Stuff comes up. Maybe you work more efficiently without having to stop to listen to me talk for an hour-plus
- **Communication and Feedback**
  Good thing about feedback: It's instant.
  Bad thing about feedback: It's online.
  This course, being designated "remote," will administer all homework and tests online, through WebAssign. There's too much uncertainty about COVID for me to expect you to come to campus or off-campus testing center for tests, which I would ordinarily do.

  Use hmills1@online.aims.edu to contact me by e-mail. This may also be accomplished by clicking on "E-Mail" in the Course Shell and clicking on "Mills, Steve" in the listing.

  Call or text me at 970-290-0550 if you have something urgent, or want some 1-on-1 ZOOM.

  Class Meetings: There is so much homework and I've made so many videos, that I'm not stuck on giving traditional lectures. I'm perfectly happy just answering questions the whole time, from students who are flying through the homework exercises and picking up the theory and skills *heuristically*.

  Heuristic learning is when the next lesson is motivated by a task, in this case, a homework exercise. My videos are very much focused on solving the homework exercises. I present worked examples of virtually everything, in notes and videos. The notes are the transcripts of what I put on the whiteboard while making the videos.

  Stuck on #10 in the WebAssign? Go to the notes on harryzaims.com for that section. Scroll down to #10. If the notes are enough to help you, great! If you want to see the talk, then open another tab with videos in it and open up video #10 for that section!

  You might find that you're 100% self-sufficient just doing the homework, writing projects and practice tests, and all you want is to have a time to ask your questions. I like to accommodate that, which is why I'm not stuck on giving a complete formal lecture every meeting.

  Last semester, I went totally flipped, and that didn't seem as good as it is in face-to-face. So this semester, I'll be primed to give a formal lecture over the current material, if people don't have questions.

  Grading
  Tests: 40%
  Homework: 30%
  Writing Projects: 20%
  E-mail Settings: 10%

Grading Scale

90% - 100%	A	(Superior and excellent)
80% - 89%	B	(Above average)
70% - 79%	C	(Average)
60% - 69%	D	(Below average level of achievement)
Below 60%	F	(Not acceptable)

- **Course Schedule**: https://harryzaims.com/122/122-fall-21/122-schedule-spring-21.pdf