Instructor Information

Professor: **Mohammed K A Kaabar**
Website: http://www.mohammed-kaabar.net
Office: Classroom
Office Hours: By appointment.
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Course Information

Prerequisite: MAT 121 with grade of "C" or better or ACCUPLACER College Level 63-102 or ACT:24.
Lecture Sessions: Tuesday   8:00 AM – 9:10 AM
                        Thursday   8:00 AM – 10:25 AM
MAT-122 Class Website: http://www.mohammed-kaabar.net/trigonometry

Course Description: This course is designed primarily for students who are continuing into the calculus sequence. This course examines trigonometric functions and their graphs, identities and equations and solutions of triangles. Vectors, polar coordinates, and equations of conic sections are introduced. This course is one of the Statewide Guaranteed Transfer courses. GT-MA1 Course.

Textbook: Trigonometry: Lial, Hornsby, Schneider, 11th edition (some students will have the 10th edition).

Calculator:

TI-83/84 graphing calculator required. It is expected that you have your own calculator and that you have fundamental knowledge as to how to use it. You will not be permitted to share a calculator during a test or quiz. If you choose to use another calculator such as a Casio, then it is up to you to figure out how it works.

Supplemental Materials: I will be posting lecture notes and handouts in PDF files on my webpage.

Course Outline:

Chapter 1: TRIGONOMETRIC FUNCTIONS
        1.1 Angles
        1.2 Angle Relationships and Similar Triangles
        1.3 Trigonometric Functions
        1.4 Using the Definitions of the Trigonometric Functions

Chapter 8: COMPLEX NUMBERS, POLAR EQUATIONS AND PARAMETRIC EQUATIONS

Learning Outcomes:

After successful completion of this course, the student should be able to:

Number	Competency	Method of Assessment
1	Evaluate the trigonometric functions and find their graphs	Homework, in class work, quiz, exam
2	Identify and discuss trigonometric vocabulary	Homework, in class work, quiz, exam
3	Measure angles in degrees and radians	Homework, in class work, quiz, exam
4	Calculate the values of trigonometric functions of acute angles using right triangles.	Homework, in class work, quiz, exam
5	Evaluate trigonometric functions for general angles	Homework, in class work, quiz, exam

6	Use reference angles to evaluate trigonometric functions	Homework, in class work, quiz, exam
7	Construct the graphs of the trigonometric functions	Homework, in class work, quiz, exam
8	Read and interpret angular and linear velocity type problems	Homework, in class work, quiz, exam
9	Manipulate trigonometric expressions and equations	Homework, in class work, quiz, exam
10	Recall and apply the reciprocal, quotient, Pythagorean, and even-odd identities to simplify expressions.	Homework, in class work, quiz, exam
11	Use the fundamental identities to verify trigonometric identities	Homework, in class work, quiz, exam
12	Employ the formulas for sums and differences to find exact values of the trigonometric functions for selected angles, and to simplify expressions.	Homework, in class work, quiz, exam
13	Derive and use the double-angle and half-angle formulas	Homework, in class work, quiz, exam
14	Use the product and sum formulas, and graph combinations of sine and cosine functions	Homework, in class work, quiz, exam
15	Describe the relationship between the trigonometric functions and their inverses	Homework, in class work, quiz, exam
16	Calculate solutions for trigonometric equations with variable side conditions.	Homework, in class work, quiz, exam
17	Solve right triangles	Homework, in class work, quiz, exam

18	Use the law of sines to solve a general triangle, including the ambiguous case	Homework, in class work, quiz, exam
19	Use the law of cosines to solve a general triangle.	Homework, in class work, quiz, exam
20	Add, subtract, and find scalar multiples of vectors, and to use the standard basis vectors.	Homework, in class work, quiz,
21	Convert from Cartesian to polar coordinates and vice versa, and graph polar equations.	Homework, in class work, quiz, exam
22	Read, interpret, and use a drawing to solve nautical type problems.	Homework, in class work, quiz, exam
23	Describe the standard form of the equation of an ellipse and graph the equation.	Homework, in class work, quiz, exam
24	Recognize and obtain the standard form of the equation of a parabola and graph the equation.	Homework, in class work, quiz, exam
25	Recognize and obtain the standard form of the equation of a hyperbola and graph the equation.	Class participation
26	Change to a new pair of coordinate axes in order to simplify graphing.	Homework, in class work, quiz,

Preparing learners for life success is an important commitment at Arapahoe Community College. These learning outcomes address the knowledge, skills, and values that are fundamental to the personal and professional growth of our students, employees and community.

1. **Communication**
   Construct, deliver, and engage in effective, knowledgeable communication for a variety of audiences and purposes.
2. **Information Management**
   Identify, retrieve and synthesize information in order to think critically, reason creatively and make informed judgments.
3. **Personal Development**

Identify and continually develop one's aptitudes and abilities in pursuit of goals.

4. **Responsibility and Accountability**
   Employ personal and social accountability, recognize ethical issues, practice ethical behavior, and balance personal freedom with the interest of the community.

5. **Quantitative Reasoning**
   Retrieve, interpret and evaluate information and numerical concepts to determine trends, make predictions, and develop informed opinions.

6. **Cultural Awareness**
   Identify, distinguish, or express a diversity of aesthetic, cultural, and historical perspectives

Grading:

- Written Assignments (The lowest two scores will be dropped): 10%
- MML Assignments and Quizzes: 10%
- In Class Quizzes (8 Chapters): 10%
- Exams (6 exams): 50%
- Final Exam (ACC Departmental Final – Cumulative): 15%
- Pop Quizzes: 5%

- Grading Scheme/Criteria for Grading/Grading Standards
- **A** 90.00%-100%
- **B** 80.00%-89.99%
- **C** 70.00%-79.99%
- **F**   below 70%

PLEASE NOTE: ABSENCES EXCEEDING 2 WEEKS MAY BE SUBJECT TO 5% REDUCTION IN OVERALL GRADE PER EACH ADDITIONAL WEEK (OR PARTIAL WEEK) PER YOUR COURSE CONTRACT ITEM #5.

Written Assignments: Assignments must be submitted in the lecture. Please make sure your homework is well organized and legible. I advise you to use a pencil instead of a pen so you can erase your mistakes. If you choose to use a pen, please cross out your mistakes completely or start over. All written assignments must be stapled together. **While I encourage you to work with other people, you should write down your own solution rather than copying someone else's work**. Make sure you include your name, student ID number, MAT-122 Course, and homework assignment number. **Note:** the lowest 2 scores in written assignments will be dropped if all were completed.

Quizzes: Every week or every other week, there will be a quiz during the last 20 minutes of either on Tuesday or Thursday lecture session. There will be no make- up quizzes unless you got permission from me in advance in which case you will need to come during my office hours to take a quiz within a week.

Handouts: Every week or every other week, there will be a handout during the last 30 minutes of either Tuesday or Thursday lecture session. The weekly handout will be a good practice of the

class materials. In each handout, you will work in small groups to solve some mathematical problems, and from each group there will be one volunteer to present the group solution of (one problem) or (one part of problem) on our class board**.**

Study Guides: There will be study guides throughout the semester. Each study guide will contain a set of practice problems for exams. I will post them online on my webpage one week before the actual exam day, and I highly encourage you to study them and prepare some questions to ask me in the review sessions. I will go over the questions in study guides during our review sessions.

Make-up/Late Work Policies: There is no make-up work/late work for any assignment in MML for **ANY REASON**. You are given three days or more to get it done. This amount of time accounts for sick days and procrastination. If you feel you have extenuating circumstances, please speak to me. The expectation is that you get your homework done the night that material is covered. If your internet goes down, it is expected that you haven't waited until the last minute and have the opportunity to go to a friend/relative's house, the library or somewhere else to finish your work. This is not an acceptable excuse for not getting your work done. If MML goes down, which I do receive messages of such instances, then, the due dates will change. I will accept assignments (take home quizzes or in class work) at the end of the day it is due for a 10% penalty. I will not accept any work after the day it is due. If you forget your assignment at home, I will give you another copy and you will have till the end of the day for a 10% penalty. **Make Up will be accommodated as follows: with an excused absence (1 day for each missed day) and I require that you contact me via email to arrange the make up in a timely fashion.** Timely being as soon as you know you will not be in school that day. If you are absent the day of a quiz or exam it is EXPECTED that you take the quiz or exam on the day you return. An in class work assignment will be due the day you return as well. A make-up assignment will not be the same as what was given to the remainder of the class. I will do my best to create a comparable assignment in difficulty but this is very subjective. The final exam cannot be taken at any other time except for when it is scheduled **– NO EXCEPTIONS**. If you are unable to take the final when scheduled you will either be assigned an incomplete or the grade you have earned thus far until that time that you are able to take the exam. In such a scenario a change of grade will be submitted to the college. This is strongly discouraged and will only be considered under **documented extenuating circumstances**.
PLEASE NOTE: MAKE UP WORK UNDER EXTENUATING CIRCUMSTANCES WILL BE ARRANGED WITH THE INSTRUCTOR AND THE DEAN OF ACADEMICS. YOU WILL BE ACCOMMODATED BUT YOU WILL HAVE A SPECIFIED PERIOD OF TIME TO MAKE UP YOUR WORK.

Attendance/Level of Effort Policy: It is expected that students will be present for every class, on time, and prepared. Being prepared for class means students have the necessary materials for class (calculator, notepaper, pencil, etc) and that you have done their homework and read ahead. Please refer to the CECP Attendance and Tardy Policy for consequences. Questions on the previous day's material may be answered at the beginning of class for a short time. This is a very condensed class so if possible all questions should be addressed outside of class.
A college course has a rule of thumb of 2-3 hours of studying (homework, review, reading, etc.) per one hour of class time. This may be sufficient for some students, but others may need to

spend more time. It is expected that you do what you need to do to be successful in this class. It is up to you to ask questions in a timely fashion. Waiting until the last minute is a recipe for disaster. The end product of your studying should be that you comprehend the material and can demonstrate proficiency and work any given problem independently in 2-3 minutes.   The content of this course will not be modified to suit the skill level of the class. You are receiving college credit and with that requires exposure to a certain amount of material and the comprehensive final will cover all sections outlined in this syllabus. If you are struggling, you need to come in for extra help else you will not be successful in this class.

This class is very condensed and we will start promptly. I expect that you will be in your seat, quiet and with materials out ready for class.

Extra Credit: Extra credit may be given on a quiz or exam only. There will be no extra credit assignments to make up for poor performance or missed assignments.

Student Resources: Successful students make use of available resources such as the mathematics lab and review sessions. Tutoring will be available Mon-Th, 11-3 in Grit Room (Rm 201)

Academic Integrity: CECP, Arapahoe Community College, and Colorado State University – Pueblo are committed to academic honesty and scholarly integrity. CECP, ACC, and CSU-P can best function and accomplish their mission in an atmosphere of the highest ethical standards. All members of CECP, ACC, and CSU-P are expected and encouraged to contribute to such an environment by observing all accepted principles of academic honesty. Academic dishonesty includes but is not limited to: **plagiarism, cheating, fabrication, grade tampering, misuse of computers and other electronic technology, and facilitating academic dishonesty. Those found in violation of academic honesty will be subject to the disciplinary actions as the instructor and Dean of the school see fit.** Please refer to the CECP Academic Honesty Policy for consequences.

Students with Disabilities: CECP will provide accommodations to qualified students with disabilities. To request accommodation, please contact Ms. Grant in Room 208. It is the responsibility of the student to inform the instructor of any accommodation in a timely fashion.

Online Course Evaluations:
As this course nears completion, you may have the opportunity to complete a confidential evaluation of the class. Your feedback is important, and ensures that CECP, ACC, and CSU-P continue to offer quality instruction that meets your needs. Please take time to complete the survey – I appreciate your feedback. Evaluations will be institution-specific. Login instructions for ACC evaluations will be sent to your 'student.cccs.edu' e-mail address.

Websites you might find helpful:

Khan Academy

Math.com

Purplemath

Mathplanet.com

Algebrahelp.com

Coolmath.com

Desmos.com

Important Note:

- **ACC/CSU Only: Census Date (date to drop with a refund):** Feb. 1st, 2017. Note that this date may be different for concurrent enrollment students. Please check with advising.
- **ACC/CSU Only: Withdraw Date (date to withdraw with a "W"):** April 11, 2017. Note that this date may be different for concurrent enrollment students. Please check with advising.

Expectations: The following is a list of all my expectations:
- I expect regular attendance and active participation in my class.
- Cheating or plagiarism of any kind will not be tolerated.
- Lastly, if you have any question or need help, please feel free to ask me. I'm here to help you so that you can succeed in this class.

Note: I reserve the right to add-to or modify the information contained on this syllabus as need arises.

Tentative Schedule of Class Assignments for the Semester:

The following is a Tentative Schedule. We may cover more or less material each day but this will give you a guideline. *I reserve the right to change the calendar as needed.*

Tuesday	Thursday		
Jan 10 1.1-1.2	Jan 12 1.2-1.4		
Jan 17 **Ch1 Quiz, Ch1 ICW due**	Jan 19 2.1-2.3		
Jan 24 2.3-2.4	Jan 26 2.5, ch2 practice		
Jan 31 **Ch2 ICW**	**Feb 2** **Ch2 Quiz,** 3.1-3.2		
Feb 7 3.2-3.3	**Feb 9** **Ch1-ch2 Exam,** 3.3-3.4		
Feb 14	**Feb 16**		

3.4	**Ch3 ICW**, 4.1		
Feb 21 **NO SCHOOL**	**Feb 23** **Ch3 Quiz,** 4.2		
Feb 28 4.3, 4.5	**Mar 2** **Ch3 Exam, Ch4 ICW**		
Mar 7 **Ch4 Quiz**	**Mar 9** **Ch4 Exam,** 5.1-5.2		
Mar 21 5.2-5.3	Mar 23 5.4-5.5		
Mar 28 5.6	**Mar 30** **Ch5 ICW,** 6.1-6.2		
Apr 4 **Ch5 Quiz**	**Apr 6** **Ch5 Exam,** 6.2-6.3		
Apr 11 **Ch6 ICW**	**Apr 13** **Ch6 Quiz,** 7.1-7.2		
Apr 18 7.2-7.3	**Apr 20** **Ch6 Exam,** 7.3-7.4		
Apr 25 **NO SCHOOL**	Apr 27 7.4-7.5, 8.1		
May 2 **Ch7 ICW**	**May 4** **Ch7 Quiz,** 8.2-8.3		
May 9 8.4	**May 11** 8.5, **ch8 ICW**		
May 16 **Ch8 Quiz**	**May 18** **Ch7-Ch8 Exam**		
May 23 **FINAL EXAM**			

MML Due Dates: Subject to change at the instructor's discretion. You have unlimited tries on your homework, however only two tries for the quizzes. **You do have 60 min for a quiz**. Deadline is 11:59pm the date indicated. **Please be aware that MML does not always advertise the correct due dates. The dates here are correct. Unless unforeseen circumstances arise, this is when your homework is due.**

Sunday	Sunday	Sunday	Sunday
Jan 15 1.1-1.4, syllabus quiz, Quiz 1.1-1.2, Quiz 1.3-1.4	Jan 22 2.1-2.2	Jan 29 2.3-2.5,Quiz 2.1-2.3 Quiz 2.4-2.5	Feb 5 3.1
Feb 12 3.2-3.3, Quiz 3.1-3.2	Feb 19 3.4, 4.1, Quiz 3.3-3.4	Feb 26 4.2	Mar 5 4.3-4.5, Quiz 4.1-4.3, Quiz 4.4-4.5
Mar 12 5.1	Mar 26 5.2-5.5, Quiz 5.1-5.3	Apr 2 5.6, 6.1, Quiz 5.4-5.6	Apr 9 6.2-6.3, Quiz 6.1-6.2, Quiz 6.3-6.4
Apr 16 7.1	Apr 23 7.2-7.3, Quiz 7.1-7.3	Apr 30 7.4-7.5, Quiz 7.4-7.5, 8.1	May 7 8.2-8.3, Quiz 8.1-8.3
May 14 8.4-8.5, Quiz 8.4-8.5			