COLLEGE TRIGONOMETRY

**MAC 1114 (CRN 23048)**

**Spring Session, 2016**

**COURSE SYLLABUS**

**Time & Place:** Tuesday & Thursday, 11:30am-12:45pm, 3-211

**Instructor:** Nathan Baker

**Office: 4-227**

**Phone:** 407-582-1398

**E-mail:** nbaker@valenciacollege.edu

**Office Hours:** By appointment. More official office hours will be announced in class at a later time. Thank you for your patience in this matter.

**Course Description:** Prerequisite: A grade of “C” or better in MAC 1105, or two years of high school algebra and one year of high school geometry with a grade of “C” or better. Topics include a symbolical, graphical, and numerical analysis of trigonometric functions, and solutions of plane triangles and vectors. Applications emphasizing connections with other disciplines and with the real world will be included. Technology tools will be utilized in addition to analytical methods. MAC 1114 is a Gordon Rule course. Minimum grade of “C” required if MAC 1114 is used to satisfy Gordon rule and general education requirements. (See your college catalog for further details).

**Required Materials:**

**Textbook:** Trigonometry, 10th edition by Lial/Hornsby/Schneider

**Calculator:** A TI-84 graphing calculator is required. All classroom instruction will be given utilizing the TI-84+. You are welcome to use another model with the same capabilities as the TI-84+, but you are responsible for being able to utilize your particular calculator. In addition, on exams, the TI-84+ OR LESS must be utilized.

**Attendance:** In a mathematics course, it is imperative that you attend class. Lack of attendance will be reflected in your performance on exams. **Please attend class!!!**

**Evaluation:** Your final grade in the course will be based on your performance on in-class chapter exams and a comprehensive final exam. Here is a more specific breakdown:

**3 Chapter Tests worth 100 pts/ea = 300 pts**

**1 Final Exam worth 100 pts = 100 pts**

**Total 400 pts**

The grading scale for the course is as follows:

90-100% A

80-89% B

70-79% C

60-69% D

< 60% F

**Missed Exams:** Please note that there are no make-up exams of any kind. Once again, there are **no make-up exams**. All in-class exams must be taken during our in-class test sessions and there will be no exceptions. Only students registered through the OSD office can use the testing center, and if this applies to you, you will already have the necessary paperwork. All test dates will be announced in class at least 1 week prior to the exam. Any missed exam will be recorded as a grade of “0”. Two recorded zeros result in failure of the course.

**Reason for Missed Exam Policy:** If your score on the final exam is greater than your lowest exam score, your score on the final exam will replace that lowest exam score (final exam score always counts). Therefore, once again, no make-up exams will be given. If a student misses more than 1 exam they will receive a grade of “F”. If a student misses the final exam they will receive a grade of “F”.

**Aside:** The final exam date and time is scheduled by the college and is non-negotiable. All students must take the final exam during this course’s in-class scheduled date and time and there will be no exceptions. This instructor is not responsible for student conflicts with final exam times. It is suggested that each student check the final exam schedule on Valencia’s webpage and plan their semester accordingly. (**final exam, Thur., Apr. 28, 10:00am-12:30pm**)

**Additional Assistance:** Tutors from the tutoring center are available in the Math Lab and Math Student Support Center in room 7-240. Also, utilize your instructor during office hours for math help when needed. If you come by my office on or before Jan. 28, I will award you 7 bonus points if you request them.

**Academic Honesty:** All students are expected to be in compliance with Valencia Community College’s policy on academic honesty. Cheating of any kind will not be tolerated. On the 1st offense, the score on that exam will be “0”. The 2nd offense will result in a grade of “F” for the course. **DO NOT CHEAT!!!!**

**Withdrawal: The withdrawal deadline for Spring Session, 2016, is April 1** . After this date, students will no longer be able to withdraw from the course and will receive a letter grade based on the exam scores. Hence, decide if you’ve got what it takes and make a final decision on or before this date, as this instructor will **NEVER** withdraw a student unless they are a “no-show”.

**Note:** The instructor reserves the right to make any necessary changes to the policies contained in this syllabus. All changes will be announced in class.

Thank you,

Nathan Baker

***MAC 1114 – College Trigonometry Homework Assignments\****

***(Lial, Hornsby, Schneider, Daniels – 10th edition)***

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| Textbook Section | Topics Covered | Problems |
| 1.1 | Angles | 1 – 129 every other odd, 131– 134 all, 138 |
| 1.2 | Angle Relationships and Similar Triangles | 1 – 35 odd, 43, 47, 53, 57, 60, 61, 63, 67, 72 |
| 1.3 | Definition of Trigonometric Functions | 1 – 61 odd, 93, 97, 103, 105 |
| 1.4 | Using the Definitions of Trig Functions | 1 – 65 odd, 48, 69 – 77 odd, 81 – 84 all, 101, 103 |
| 2.1 | Trigonometric Values of Acute Angles | 1 – 59 odd, 61, 62, 68, 70-73 all, 77, 81 |
| 2.2 | Trigonometric Values of Non-Acute Angles | 1 – 51 odd, 54, 55, 58, 59, 61, 79 – 90 all |
| 2.3 | Using a Calculator to Find Trig Values | 1 – 33 odd, 45, 61, 67 |
| 2.4 | Solving Right Triangles | 1 – 35 odd, 41, 43, 49, 54, 57 |
| 2.5 | Applications of Right Triangles | 3, 11, 13, 15, 21, 22, 29, 33, 36, 39 |
| ***Test I*** | ***Test I*** | ***Test I*** |
| 3.1 | Radian Measure | 1 – 65 odd, 67 – 85 all, 87, 89 – 92 all |
| 3.2 | Applications of Radian Measure | 1 – 23 odd 27, 35, 43 – 49 odd, 61, 66, 70 |
| 3.3 | The Unit Circle and Circular Functions | 1 – 71 odd, 77 |
| 3.4 | Linear and Angular Speed | 1 – 35 odd, 37, 40, 45 |
| 4.1 | Graphs of Sine and Cosine | 1 – 45 odd, 47, 63 |
| 4.2 | Translations of the Graphs of Sine and Cosine | 1 – 57 odd |
| 4.3 | Graphs of Tangent and Cotangent | 1 – 37 odd, 39, 41, 43 |
| 4.4 | Graph of Secant and Cosecant | 1 – 23 odd, 26, 27 |
| 4.5 | Harmonic Motion | 3, 5, 9, 11, 13, 17 |
| ***Test II*** | ***Test II*** | ***Test II*** |
| 5.1 | Fundamental Identities | 1 – 17 odd, 21 – 26 all, 27 – 73 odd, 87, 91 |
| 5.2 | Verifying Trigonometric Identities | 1 – 77 every other odd, 79, 87, 91 |
| 5.3 | Cosine Sum and Difference Identities | 1 – 6 all, 7 – 65 odd, 12, 16, 69, 74 |
| 5.4 | Sine & Tangent Sum and Difference Identities | 1 – 59 odd, 24, 36, 56, 58 |
| 5.5 | Double Angle Identities | 1 – 6 all, 7 – 49 odd, 22, 55, |
| 5.6 | Half-Angle Identities | 1 – 53 odd, 63 |
| 6.1 | Inverse Trigonometric Functions | 1 – 12 all, 13 – 65 every other odd,  79 – 107 every other odd, 112 |
| 6.2 | Solving Trigonometric Equations I | 1 – 57 odd, 16, 34, 50 |
| 6.3 | Solving Trigonometric Equations II | 1 – 43 odd, 51 |
| 6.4 | Equations with Inverse Trig Functions | 1 – 4 all, 5 – 41 odd, 24, 53 |
| ***Test III*** | ***Test III*** | ***Test III*** |
| 7.1 | Oblique Triangles and the Law of Sines | 1, 2, 3 – 19 every other odd, 21, 22 ,23 25,  27, 31, 39, 41, 45, 51, 55 |
| 7.2 | Ambiguous Case of the Law of Sines | 1, 2, 3 – 29, 33, 37 |
| 7.3 | Law of Cosines | 1 – 37 every other odd, 39 – 45 all, 49, 58 |
| 7.4 | Vectors, Operations, and the Dot Product | 1 – 91 every other odd |
| 7.5 | Applications of Vectors | 1 – 6 all, 9, 11, 15, 21, 29 |
| 8.5 | Polar Equations and Graphs | 1 – 31 odd, 41 – 67 odd, 66 |
| 8.6 | Parametric Equations, Graphs & Applications | 1 – 33 odd, 39, 41, 45, 50 |
| ***Test IV*** | ***Test IV*** | ***Test IV*** |