Math 1392: Plane Trigonometry

Section 16144 – Fall 2015
MWF 9:00 am-9:50 pm, MCS 220

Instructor: Clarence Burg
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Final Exam: 2:00-4:00 pm, Wednesday, December 9, 2015
Office Hours: MWF 10:00-10:50 am, TTh 9:25-10:40 am

Prerequisites: A "C" or better in Math 1390 (College Algebra).

Required Text: Trigonometry with Algebra Review, by Clarence Burg
Additional Resource: Trigonometry, 3rd Edition, by Dugopolski

Required Calculator: Calculators are required. UCA Department of Mathematics calculator policy is listed at *http://uca.edu/math/files/2013/11/Calculators.pdf*.

Course Objectives: Coupled with College Algebra (MATH 1390), this course satisfies the prerequisites for Calculus I (MATH 1496) as an alternative to MATH 1580. Topics include angles and triangles and their measure, graphs and applications of trigonometric functions, and inverse trigonometric functions, vectors, polar coordinates, and complex numbers.

Student Learning Outcomes: Upon successful completion of this course, the student will be able to:
1. Express angle measures in both degrees and radians and evaluate trigonometric functions of common and special angles;
2. Define, plot, graphically transform and use trigonometric functions;
3. Prove basic trigonometric identities and use them to simplify trigonometric expressions;
4. Use inverse trigonometric functions when solving conditional trigonometric equations;
5. Model and solve right triangle applications, oblique triangle applications and certain vector applications.

Grading: Grades will be based on the standard 10 point scale (A – 90-100%, B – 80-89%, C – 70-79%, D – 60-69%, F – below 60%). The grade will be determined from homework, quizzes, projects, tests and a final exam.

Homework		10%
Quizzes		20%
Tests (3@15% each)		45%
Final Exam		25%
	Total	100%

Attendance and Withdraw Failing Policy: Attendance is required. If the instructor determines that the student has intentionally stopped attending class (i.e., missing classes, missing exams and not informing instructor about the reason), then the student will be dropped. Absences for officially sanctioned university activities are allowed – please inform the instructor prior to these absences.

Homework: Homework will be assigned for each section covered in class.

Quizzes: Quizzes will be given on a regular basis, based on the material covered in the associated homeworks. Two quizzes will be dropped when determining the final grade.

Tests: There will be three tests, which will be scheduled at least one week in advance. **No make-up tests**. Tests may be taken early with prior arrangements – please contact the instructor as early as possible.

Final Exam: The final exam will be comprehensive, covering all material taught in the course. **There is no make-up final exam**. If you miss the final exam, you will either receive a 0 for the final exam or will receive an incomplete for the course, at the discretion of the instruction.

Content:
    Chapter 1: Measuring Angles and Rotation
- Angles and their measurement
- Arclength and area
- Angular and linear velocities

    Chapter 2: The Trigonometric Functions
- Definitions of trigonometric functions
- Right triangle trigonometry
- Applications of right triangles
- The Fundamental Identity

    Chapter 3: Graphing Trigonometric Functions
- Graphs of sine and cosine
- Graphs of secant, cosecant, tangent and cotangent

    Chapter 4: Trigonometric Identities
- Odd/Even identities
- Verifying identities
- Sum, difference and co-function identities

    Chapter 5: Solving Trigonometric Equations
- Inverse trigonometric functions
- Linear and quadratic trigonometric equations

    Chapter 6: Applications of Trigonometry
- Vectors
- Adding and subtracting angles
- Adding sinusoids

University policy on Academic Integrity and Academic Misconduct: The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No. 709 on February 10, 2010, and published in the *Student Handbook*. Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy.

Plagiarism: Plagiarism can be defined as the use of someone else's words without proper acknowledgement of that use.   If you use someone else's words or the written words of the instructor in the assignment, you must put them in quotations and provide a reference for the source. Paraphrasing the words of others by only changing a few words is also considered plagiarism. For more information about plagiarism, please see UCA's statement on plagiarism at http://uca.edu/academicaffairs/files/2012/08/Plagiarism.pdf. Plagiarism is academic misconduct and will result in appropriate disciplinary action.

The Americans with Disabilities Act statement: The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, please contact the UCA Disability Resource Center, 450-3613. If the instructor of this class needs to be informed of your disability in order to assist with any appropriate accommodations, please contact the instructor during the first week of classes.

Building Emergency Plan statement: An Emergency Procedures Summary (EPS) for the building in which this class is held will be discussed during the first week of this course. EPS documents for most buildings on campus are available at http://uca.edu/mysafety/bep. Every student should be familiar with emergency procedures for any campus building in which he/she spends time for classes or other purposes.

The Title IX disclosure: If a student discloses an act of sexual harassment, discrimination, assault, or other sexual misconduct to a faculty member (as it relates to "student-on-student" or "employee-on-student"), the faculty member cannot maintain complete confidentiality and is required to report the act and may be required to reveal the names of the parties involved. Any allegations made by a student may or may not trigger an investigation. Each situation differs and the obligation to conduct an investigation will depend on those specific set of circumstances. The determination to conduct an investigation will be made by the Title IX Coordinator. For further information, please visit: https://uca.edu/titleix. *Disclosure of sexual misconduct by a third party who is not a student and/or employee is also required if the misconduct occurs when the third party is a participant in a university-sponsored program, event, or activity.*

Departmental Policy: Use of cell phones (including texting), MP3 players, web browsers, ear buds/plugs is NOT ALLOWED during class time. Cell phones must be set to silent/vibrant mode while in class. Instructors may also disallow use of any other technology not relevant to the instruction. Use of any type of laptop during class time requires consent of the instructor.

Other Policies: Students should familiarize themselves with all policies listed in the UCA *Student Handbook*, such as the Sexual Harassment Policy and Academic Policies.