# 7/27/2020

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 2 September 2020

Term and Year of Implementation: Fall 2020

**Course Title:** Plane Trigonometry

**BRCC Course Rubric:** MATH 1223

**Previous Course Rubric**: MATH 111

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 3-0-3

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 45-0-45

**Louisiana Common Course Number:** CMAT 1223

**CIP Code:** 27.0101

**Course Description:** Introduces the study of trigonometric functions and identities, inverse trigonometric functions, graphs, solving triangles and equations, vectors and polar coordinates. All students are required to use a TI-30XIIB orTI-30XIIS calculator.

**Prerequisites:** Appropriate placement test score or MATH 1113 (or MATH 101) or MATH 1213 (or MATH 110) with a grade of “C” or better

**Co-requisites:** None

**Suggested Enrollment Cap:** 30

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Demonstrate the ability to define and graph the six basic trigonometric functions and evaluate each function appropriately.

2. Solve problems involving the six basic trigonometric functions by applying right triangle trigonometry and the laws of Sine and Cosine.

3. Apply fundamental trigonometric identities to prove other trigonometric identities and solve trigonometric equations.

4. Demonstrate the ability to convert between rectangular and polar coordinates and equations as well as graph in the polar coordinate system.

5. Demonstrate the ability to graph vectors, perform basic operations on vectors, and find a unit vector in the same direction as a particular vector.

**General Education Learning Outcome(s):** This course supports the development of competency in the following area(s). Students will:

Use processes and models to solve quantitative problems. (General Education Competency in Quantitative and Symbolic Reasoning)

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Instructor-created exams and/or homework

2. Comprehensive departmental final exam

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

I. Trigonometric Functions

A. Angles and Radian Measures

B. Right Triangle Trigonometry

C. Trigonometric Functions of any Angle

D. Graphs of Sine and Cosine Functions

E. Graphs of Other Trigonometric Functions

F. Inverse Trigonometric Functions

G. Applications of Trigonometric Functions

II. Analytic Trigonometry

A. Using Fundamental Identities

B. Verifying Trigonometric Identities

C. Solving Trigonometric Equations

D. Sum and Difference Formulas

E. Multiple-Angle Formulas

III. Additional Topics in Trigonometry

A. Law of Sines

B. Law of Cosines

C. Vectors in the Plane

D. Vectors and Dot Product

E. Polar Coordinates

F. Graphs of Polar Equations