



# COURSE OUTLINE OF RECORD

**Number:** MATH A092

**TITLE:** Support for Trigonometry

**ORIGINATOR:** Tyler Boogar

**EFF TERM:** Fall 2019

**FORMERLY KNOWN AS:**

**DATE OF**

**OUTLINE/REVIEW:** 11-28-2018

**CROSS LISTED COURSE:**

**TOP NO:** 1702.00

**CID:**

**SEMESTER UNITS:** 2.0

**HRS LEC:** 36.0

**HRS LAB:** 0.0

**HRS OTHER:** 0.0

**CONTACT HRS TOTAL:** 36.0

**STUDY/NON-CONTACT HRS RECOMMENDED:** 72.0

## CATALOG DESCRIPTION:

A concurrent support course designed to review prerequisite topics necessary for success in Math A120, Trigonometry, covering operations with real numbers, relations and functions, systems of linear equations, factoring, rational expressions, quadratic equations, conic sections, and basic geometry.

## JUSTIFICATION FOR COURSE:

AB 705, the guidelines from the Chancellor's Office, and the Academic Senate strongly recommend the creation of a concurrent support course for students enrolling into transfer level mathematics who are identified as underprepared and in need of support. This course is designed to provide underprepared students with concurrent support while they are enrolled in Math A120.

## PREREQUISITES:

### COREQUISITES:

- MATH A120: Trigonometry

## ADVISORIES:

### ASSIGNED DISCIPLINES:

Mathematics

**MATERIAL FEE:** Yes [ ] No [X] Amount: \$0.00

**CREDIT STATUS:** Noncredit [ ] Credit - Degree Applicable [ ] Credit - Not Degree Applicable [X]

**GRADING POLICY:** Pass/No Pass [X] Standard Letter [ ] Not Graded [ ] Satisfactory Progress [ ]

**OPEN ENTRY/OPEN EXIT:** Yes [X] No [ ]

**TRANSFER STATUS:** CSU Transferable [ ] UC/CSU Transferable [ ] Not Transferable [X]

**BASIC SKILLS STATUS:** Yes [X] No [ ]

**LEVELS BELOW TRANSFER:** 1 level below transfer level

**CALIFORNIA CLASSIFICATION CODES:** Y - Not Applicable

**NON CREDIT COURSE CATEGORY:** Y - Not applicable, Credit Course

**OCCUPATIONAL (SAM) CODE:** E

**REPEATABLE ACCORDING TO STATE GUIDELINES:** No [X] Yes [ ] **NUMBER REPEATS:**

**REQUIRED FOR DEGREE OR CERTIFICATE:** No [X] Yes [ ]

**GE AND TRANSFER REQUIREMENTS MET:**

**COURSE LEVEL STUDENT LEARNING OUTCOME(S) Supported by this course:**

1. Factor a Trinomial with a leading coefficient other than 1.
2. Use proportions to set up and solve equations based on similar polygons.

**COURSE OBJECTIVES:**

1. Address the affective side of learning in order to provide students with the skills necessary to be successful in a transfer level math course.
2. Perform operations with real numbers.
3. Understand and use relations and functions to graph, state domain and range, and perform operations.
4. Solve systems of linear equations.
5. Factor and perform operations on polynomials.
6. Solve quadratic equations.
7. Perform operations on and solve equations involving rational expressions.
8. Identify and provide basic graphs of conic sections.
9. Understand and use proportions, area formulas, and the Pythagorean Theorem to solve problems in geometry.

**COURSE CONTENT:**

**LECTURE CONTENT:**

- A. Learning skills
  1. Study skills
  2. Time management
  3. Math anxiety
  4. Test taking skills
- B. Operations with real numbers
  1. Addition, subtraction, multiplication, and division of real numbers
  2. Order of operations
  3. Exponential notation
  4. Simplification of radicals
  5. Algebraic operations with radicals
  6. Rationalizing the denominator
- C. Graphs, relations, and functions
  1. Relations and functions
  2. Domain and range
  3. Function notation
  4. Algebra of functions: addition, subtraction, multiplication, division, and composition
  5. Inverse functions
  6. Equations of lines
  7. Graphs of lines
- D. Systems of linear equations
  1. Solve systems of equations
- E. Polynomials and factoring
  1. Definition of a polynomial
  2. Operations with polynomials: Addition, subtraction, multiplication, and division
  3. Factor quadratics and the sum and difference of cubes
  4. Solve factorable quadratic equations
- F. Rational expressions
  1. Combine and simplify rational expressions
  2. Solve equations involving rational expressions
  3. Simplify complex fractions
  4. Divide polynomials

G. Quadratic equations

1. Solve quadratic equations by completing the square and by the quadratic formula

H. Introduction to Conic sections

1. Identify and provide basic graphs of the parabola, circle, ellipse, and hyperbola

I. Geometry

1. Pythagorean Theorem, the coordinate plane, and the equation of a circle.
2. Proportions from similar polygons and parts of circles.
3. Areas of triangles, circles and parallelograms.

**LABORATORY CONTENT:**

**METHODS OF INSTRUCTION:**

A. Lecture:

B. Independent Study:

**INSTRUCTIONAL TECHNIQUES:**

Lecture

Discussion

Collaborative Learning

**COURSE ASSIGNMENTS:**

**Reading Assignments**

Students will spend approximately 1 hour per week reading from the assigned text.

**Out-of-class Assignments**

Students will spend approximately 2 hours per week on out-of-class assignments including reading and written homework involving problem-solving exercises.

**Writing Assignments**

Students will spend approximately 1 hour per week on writing assignments.

**METHODS OF STUDENT EVALUATION:**

Midterm Exam

Final Exam

Short Quizzes

Written Assignments

**Demonstration of Critical Thinking:**

Group work, quizzes, written tests or comprehensive final exam, and application of skills in support of Trigonometry.

**Required Writing, Problem Solving, Skills Demonstration:**

Group work, quizzes, written tests, or comprehensive final exam.

**TEXTS, READINGS, AND RESOURCES:**

**TextBooks:**

1. McKeague, C, P. *Trigonometry*, 8th ed. Cengage Learning, 2015

**Software:**

1. WebAssign. Cengage Learning, 8th ed.

**Other:**

1. Other appropriate textbook as chosen by fulltime faculty
2. Instructors may choose to use a software such as MML, ALEKS or Webassign

**LIBRARY:**

**Adequate library resources include:** Print Materials  
Non-Print Materials  
Online Materials  
Services

**Comments:**

**Attachments:**

[Attached Files](#)