

# COURSE SYLLABUS

<b>LAST REVIEW</b>	Spring 2021
<b>COURSE TITLE</b>	Trigonometry
<b>COURSE NUMBER</b>	MATH 0112
<b>DIVISION</b>	Math, Science, Business & Technology
<b>DEPARTMENT</b>	Mathematics
<b>CIP CODE</b>	24.0101
<b>CREDIT HOURS</b>	3
<b>CONTACT HOURS/WEEK</b>	Class: 3
<b>PREREQUISITES</b>	MATH0105/106 College Algebra (w/wo review) with a grade of "C" or better.

**COURSE PLACEMENT** Students must meet the correct placement measure for this course. Information may be found at:  
<https://www.kckcc.edu/admissions/information/mandatory-evaluation-placement.html>

## COURSE DESCRIPTION

Trigonometry includes trigonometric and inverse trigonometric functions, radian and degree measure, graphing, identities, and applications to physical problems. Students will be expected to use appropriate technology as one tool to achieve competency in Trigonometry.

## KANSAS SYSTEMWIDE TRANSFER: MAT1030

The learning outcomes and competencies detailed in this course outline or syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups project for this course as approved by the Kansas Board of Regents.

## GENERAL EDUCATION LEARNING OUTCOME

- Basic Skills for Communication
- Mathematics
- Humanities
- Natural and Physical Sciences
- Social and Behavioral Sciences

## INSTITUTIONAL LEARNING OUTCOMES

- Communication
- Computation and Financial Literacy
- Critical Reasoning

- Technology and Information Literacy
- Community and Civic Responsibility
- Personal and Interpersonal Skills

## **TEXTBOOKS**

<http://kckccbookstore.com/>

## **METHODS OF INSTRUCTION**

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

## **COURSE LEARNING OUTCOMES**

Upon successful completion of this course, the student will:

- A. Define the trigonometric functions using both a right triangle and the unit circle.
- B. Define and interpret radian measurement. Recognize and apply circular functions as real-valued functions.
- C. Solve for unknown sides/angles within right triangles and know trigonometric function values for special angles (multiples of  $\pi/6$  and  $\pi/4$ ).
- D. Analyze the graphs of the six basic trigonometric functions and their arithmetic combinations using the concepts of period, phase shift, amplitude, and displacement.
- E. Derive/verify trigonometric identities, including but not limited to double angle, half angle, angle sum, and angle difference identities.
- F. Define, graph, and apply inverse trigonometric functions.
- G. Solve equations involving trigonometric functions.
- H. Find solutions of oblique triangles using the Law of Cosines or Law of Sines.
- I. Solve applied problems including but not limited to vectors.
- J. Derive the trigonometric form of complex numbers and perform calculations with them including products and quotients.
- K. Translate between rectangular and polar coordinates and graph within the polar coordinate system.

## **ASSESSMENT OF COURSE LEARNING OUTCOMES**

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

## **COLLEGE POLICIES AND PROCEDURES**

*Student Handbook*

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

*College Catalog*

<https://www.kckcc.edu/academics/catalog/index.html>

*College Policies and Statements*

<https://www.kckcc.edu/about/policies-statements/index.html>

*Accessibility and Accommodations*

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.