SYLLABUS

DATE OF LAST REVIEW: 012/2014
CIP CODE: 24.0101
SEMESTER: Departmental Syllabus
COURSE TITLE: Trigonometry
COURSE NUMBER: MATH0112
CREDIT HOURS: 2
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: Departmental Syllabus

KCKCC-issued email accounts are the official means for electronically communicating with our students.

Grade of “C” or better in MATH0105 College Algebra or with instructor permission may be taken concurrently with MATH0105

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com/, for the required text(s) and other required material for your particular class. The TI-83 or 84 Series graphing calculator is required.

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.

METHOD 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, and panels,
conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

**COURSE OUTLINE:**

I. Trigonometric functions  
   A. Right triangle definition  
   B. Unit circle definition  

II. Right Triangles  
   A. 30 degree angle  
   B. 45 degree angle  
   C. 60 degree angle  

III. Radian measurement  
   A. Angles  
   B. Circular functions  

IV. Graphs  
   A. Sine, cosine, and tangent functions  
   B. Secant, cosecant, and cotangent functions  

V. Trigonometric identities  
   A. Double angle and half angle identities  
   B. Sum and difference identities  

VI. Inverse trigonometric functions  
   A. Graph  
   B. Analyze  

VII. Equations  
   A. Sine, cosine, and tangent  
   B. Secant, cosecant and cotangent  

VIII. Oblique triangles  
   A. Law of cosines  
   B. Law of sines  

IX. Applications  
   A. Distance  
   B. Elevation  

**EXPECTED LEARNER OUTCOMES:**  
A. The student will be able to define trigonometric functions.  
B. The student will be able to solve right triangles.  
C. The student will be able to use radian measurement and circular functions.  
D. The student will be able to analyze graphs.  
E. The student will be able to verify trigonometric identities.
F. The student will be able to use inverse trigonometric functions.
G. The student will be able to solve equations.
H. The student will be able to solve oblique triangles.
I. The student will be able to solve applications.

COURSE COMPETENCIES:
Upon successful completion of this course:

The student will be able to define trigonometric functions.
1. The student will be able to define trigonometric functions using the right triangle.
2. The student will be able to define trigonometric functions using the unit circle.

The student will be able to solve right triangles.
3. The student will be able to use 30 degree angles.
4. The student will be able to use 45 degree angles.
5. The student will be able to use 60 degree angles.

The student will be able to use radian measurement and circular functions.
6. The student will be able to define a radian measure.
7. The student will be able to use circular functions.

The student will be able to analyze graphs.
8. The student will be able to analyze graphs using the sine, cosine, and tangent functions.
9. The student will be able to analyze graphs using the secant, cosecant, and cotangent functions.

The student will be able to verify trigonometric identities.
10. The student will be able to verify the double angle and the half angle identities.
11. The student will be able to verify the angle sum and the angle difference identities.

The student will be able to use inverse trigonometric functions.
12. The student will be able to graph inverse trigonometric functions.
13. The student will be able to analyze inverse trigonometric functions.

The student will be able to solve equations.
14. The student will be able to solve equations using sine, cosine and tangent functions.
15. The student will be able to solve equations using secant, cosecant and cotangent functions.

The student will be able to solve oblique triangles.
16. The student will be able to use the Law of Cosines.
17. The student will be able to use the Law of Sines.

The student will be able to solve applications.
18. The student will be able to solve distance applications.
19. The student will be able to solve elevation applications.
20. The student will be able to derive the trigonometric form of complex numbers and perform calculations including products and quotients.
21. The student will be able to translate between rectangular and polar coordinates and graph polar equations.

ASSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation.

SPECIAL NOTES:
Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact The Director of the Academic Resource Center, in Room 3354 or call: 913-288-7670.