

Capital Community College

Course Outline

Right Triangle Trigonometry

SECTION I

SUBJECT AREA & COURSE NUMBER: MAT* G181

COURSE TITLE: *Right triangle Trigonometry*

COURSE CATALOG DESCRIPTION: This course addresses basic geometry, angular measure, trigonometric functions, inverse trigonometric functions, solutions of right triangles, fundamental identities, trigonometric equations and vectors. This course requires use of a scientific calculator.

LECTURE HOURS PER WEEK: 1

CREDIT HOURS: 1

PREREQUISITE OR CO-REQUISITE: MAT* G137 or satisfactory score on Mathematics Placement Test.

SECTION II

A. SCOPE:

The particular objective of *Right Triangle Trigonometry* is to provide a one-credit course through which students can acquire the knowledge of trigonometry and vectors required by engineering technology programs. This includes a working knowledge of basic geometry, angular measure, trigonometric functions, solutions of right triangles, fundamental trigonometric equations, and vectors.

B. REQUIRED WORK: Determined by the instructor as described in the course syllabus

C. ATTENDANCE AND PARTICIPATION: Students are expected to attend each class, arrive on time, take exams at the scheduled times, and participate in the in-class learning process. (Specific instructor policies are included in the course syllabus)

D. METHODS OF INSTRUCTION: The methods of instruction are determined by each instructor and may include but are not limited to lecture, lecture/discussion, small group collaborative learning, experiment/exploration, distance learning, student presentations, use of technologies such as audio-visual materials, computer, language laboratory, and calculator.

9/09/04

E. OBJECTIVE, OUTCOMES, ASSESSMENT

The following objectives and outcomes represent the department's core requirements for student achievement.

LEARNING OBJECTIVES	LEARNING OUTCOMES	ASSESSMENT METHODS
To demonstrate an understanding of:	Student will:	As measured by:
Basic Geometry	<ul style="list-style-type: none"> a) Identify lines, rays, angles, triangles, polygons, and circles. b) Use radian and degree measure. c) Solve problems involving the rectangular coordinate system and Pythagorean Theorem. d) Apply formulas for circumference and area. 	Written in-class quizzes, tests, and examinations; presentations to the class; out-of-class projects, written reports; portfolios; homework assignments
Trigonometric functions	<ul style="list-style-type: none"> a) Apply right-triangle definitions of trigonometric functions. b) Use trigonometric functions to solve problems related to right triangles. c) Solve problems involving trigonometric functions of arbitrary angles. d) Verify basic identities. 	
Inverse trigonometric functions	<ul style="list-style-type: none"> a) Define inverse trigonometric functions. b) Apply inverse trigonometric functions to solve problems related to right triangles. 	
Vectors	<ul style="list-style-type: none"> a) Define and represent vectors. b) Use trigonometry to decompose a vector into its x and y components. c) Use trigonometry to find the resultant of 2 or more vectors. 	
Basic trigonometric equations	Solve simple trigonometric equations.	

Note 1: The foregoing table of learning outcomes should not be considered exhaustive; other learning outcomes may also support the objectives. The list is not intended to limit the learning outcomes that can be used to support the objectives.

Note 2: The order in which the learning outcomes are addressed and the relative emphasis given to each will vary from instructor to instructor.

Note 3: There is no expectation that an instructor will employ all the assessment methods or any particular subset of them. Also, the particular list of assessment methods is not exhaustive. Other methods that measure the learning outcomes may be used.

Note 4: It is important to recognize that courses are not delivered in a social vacuum. Any bona fide assessment of a course must take account of out-of-class life demands on students that adversely impact academic success.

F. TEXTS AND MATERIALS: A text selected by the Mathematics Section of the Science and Mathematics Department with content and presentation that support the Learning Objectives and Outcomes given in Part E above.

G. INFORMATION TECHNOLOGY: Scientific calculator