|  |  |
| --- | --- |
| **PROFESSOR:** | **PHONE NUMBER:** |
| **OFFICE LOCATION:** | **E-MAIL:** |
| **OFFICE HOURS:** | **SEMESTER:** |

1. **COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:**

**MAC 1114 TRIGONOMETRY (4 CREDITS)**

Topics in this class include the real number system, circular functions, trigonometric functions, inverse relations and functions, trigonometric graphs, solutions of triangles and trigonometric equations, polar coordinates, and complex numbers. This course contains all of the features of trigonometry found in MAC 1147, with additional emphasis on applications. (May be taken concurrently with MAC 1140.) Credit is not given for both MAC 1114 and MAC 1147. If completed with a grade of "C" or better, this course serves to demonstrate competence for the general education mathematics requirement.

1. **PREREQUISITES FOR THIS COURSE:**

Testing, or (MAC 1105 or MAC 1106) with a “C” or better

**CO-REQUISITES FOR THIS COURSE:**

None

1. **GENERAL COURSE INFORMATION:** Topic Outline.

• The trigonometric functions, their properties and graphs

• Inverse trigonometric functions, their properties and graphs

• Trigonometric identities

• Conditional trigonometric equations

• Solutions of triangles

• Vector algebra

• Parametric equations

* Polar coordinates, equations, and graphs
* The complex plane

• Applications

1. **All courses at Florida SouthWestern State College contribute to the general education program by meeting one or more of the following general education competencies:**

**C**ommunicate clearly in a variety of modes and media.

**R**esearch and examine academic and non-academic information, resources, and evidence.

**E**valuate and utilize mathematical principles, technology, scientific and quantitative data.

**A**nalyze and create individual and collaborative works of art, literature, and performance.

**T**hink critically about questions to yield meaning and value.

**I**nvestigate and engage in the transdisciplinary applications of research, learning, and knowledge.

**V**isualize and engage the world from different historical, social, religious, and cultural approaches.

**E**ngage meanings of active citizenship in one’s community, nation, and the world.

**A.**  **General Education Competencies and Course Outcomes**

1. Listed here is the outcome/objective assessed in this course which plays an integral part in the student’s general education along with the general education competency it supports.

  General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

* Solve trigonometric equations.

**B.** **Other Course Objectives/Standards**

* Evaluate trigonometric functions and inverse trigonometric functions related to special angles given in degrees and/or radians analytically.
* Evaluate trigonometric functions and inverse trigonometric functions related to an angle given in degrees or radians by using a calculator.
* Analyze trigonometric functions and identify properties such as domain, range, amplitude, period, phase shift, and vertical shift when appropriate.
* Graph trigonometric functions and/or their inverses both analytically and using a graphing utility.
* Evaluate inverse trigonometric functions involving numeric values and algebraic expressions analytically.
* Prove trigonometric identities.
* Select and apply appropriate fundamental trigonometric identities, including double angle formulas to solve trigonometric equations and to prove trigonometric identities.
* Solve right triangles using definitions of the trigonometric functions and solve oblique triangles using the Law of Sines and the Law of Cosines.
* Perform basic vector operations including the dot product.
* Sketch a curve that is represented by a set of parametric equations.
* Graph polar equations.
* Convert points, complex numbers, and equations between polar and rectangular forms.
* Plot points in the complex plane
* Calculate products and quotients of complex numbers in polar form
* Calculate powers of and extract roots from complex numbers
* Apply trigonometry to solve real world problems.

1. **DISTRICT-WIDE POLICIES:**

**Programs for Students with Disabilities**

Florida SouthWestern State College, in accordance with the Americans with Disabilities Act and the College’s guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus. The office locations and telephone numbers for the Office of Adaptive Services at each campus can be found at <http://www.fsw.edu/adaptiveservices>.

**REPORTING TITLE IX VIOLATIONS**

Florida SouthWestern State College, in accordance with Title IX and the Violence Against Women Act, has established a set of procedures for reporting and investigating Title IX violations including sexual misconduct.  Students who need to report an incident or need to receive support regarding an incident should contact the Equity Officer at [equity@fsw.edu](mailto:equity@fsw.edu).  Incoming students are encouraged to participate in the Sexual Violence Prevention training offered online.  Additional information and resources can be found on the College’s website at <http://www.fsw.edu/sexualassault>.

1. **REQUIREMENTS FOR THE STUDENTS:**

List specific course assessments such as class participation, tests, homework assignments, make-up procedures, etc.

1. **ATTENDANCE POLICY:**

The professor’s specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

1. **GRADING POLICY:**

Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 - 100 = A

80 - 89 = B

70 - 79 = C

60 - 69 = D

Below 60 = F

(Note: The “incomplete” grade [“I”] should be given only when unusual circumstances warrant. An “incomplete” is not a substitute for a “D,” “F,” or “W.” Refer to the policy on “incomplete grades.)

1. **REQUIRED COURSE MATERIALS:**

(In correct bibliographic format.)

1. **RESERVED MATERIALS FOR THE COURSE:**

Other special learning resources.

1. **CLASS SCHEDULE:**

This section includes assignments for each class meeting or unit, along with scheduled Library activities and other scheduled support, including scheduled tests.

1. **ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:**

(Which would be useful to the students in the class.)