

This is a sample syllabus for MAC1114. Students should reference the section syllabus provided at the beginning of the semester for specifics regarding assignments and grade assignments.

**Analytic Trigonometry**  
**(3 hours)**  
**MAC1114**  
**Traditional Delivery**

**Catalog Description**

*This course reviews algebraic topics, covers trigonometric functions, inverse trigonometric functions and their graphs; identities and conditional equations; solution of triangles; trigonometric form of complex numbers; DeMoivre's theorem and  $n$ th roots; introduces plane vectors; as well as covers additional topics as time permits.*

**Prerequisites**

MAC 1105 (C- or better)

**Learning Objectives**

- Students will define trig function values on the unit circle.
- Students will define trig function values for right triangles.
- Students will discover the relationship between the unit circle definitions and the right triangle definitions.
- Students will apply the definitions from the unit circle in order to determine the fundamental identities and the Pythagorean Identities.
- Students will evaluate trig function values for any given angle.
- Student will translate sine and cosine graphs with vertical and horizontal stretches and compression, with vertical and horizontal shifts, and with reflections across the x-axis.
- Students will model a real-world situation using sinusoidal curve fitting.
- Students will evaluate inverse trig function values.
- Students will apply algebraic techniques to solving trig equations.
- Students will apply trig formulas and trig identities to evaluate trig function values.
- Students will relate expressions to trig formulas in order to simplify statements.
- Students will construct pictures of triangles that represent a word problem and solve for unknown values.
- Students will apply definitions of polar coordinates in order to rewrite rectangular coordinates in polar form and vice versa.
- Students will transform rectangular equations to polar form and vice versa.
- Students will define vectors.
- Students will apply vectors to basic physics problems (work).

## LIBERAL STUDIES FOR THE 21ST CENTURY:

This course has been approved to meet FSU's Liberal Studies Quantitative and Logical Thinking requirements and helps you become a critical analyst of quantitative and logical claims.

In order to fulfill the State of Florida's College mathematics and computation requirement the student must earn a "C-" or better in the course.

By the end of this course, students will:

1. Select and apply appropriate methods (i.e., mathematical, statistical, logical, and/or computational models or principles) to solve real-world problems.
2. Use a variety of forms to represent problems and their solutions.

### Requirements

Quick Canvas Quizzes	10%
Homework	10%
Labs & Individual Assignments	20%
Unit Tests	40%
Final Exam	20%

### Class Attendance

Students are required to attend lecture and lab. The Canvas Quizzes are intended to measure student engagement in lecture class. If a student misses lecture class, the student is allowed to answer the quick questions by the due date. The material on the Canvas quiz is covered during lecture time and an absence may affect this grade if the student is unable to learn the material independently of lecture.

The lab activities always include points for attendance. A student who misses lab may still answer the other lab activity questions independently. The student will miss the attendance point(s) on the activity.

If a student misses lab and has an excused absence, the student may complete the lab independently and will not miss the points earned for attendance.

### Late Work Policy

**Missed Homework:** Homework assignments are available over a period of time. If you miss a homework deadline, extensions are granted for excused absences.

**Missed Lab Activity:** It is expected that you attend the live labs throughout the semester in order to complete the lab activities. In the event of an absence, you should still submit work for

the lab activity (by the due date/time). Contact your instructor for a makeup in case of excused absence.

Labs do not meet on test days.

**Missed Test:** If a test is missed and excused with documentation, then a makeup exam will be arranged. Students must provide advance notice of absences (when possible) as well as relevant documentation regarding absences to the instructor as soon as possible following the illness or event that led to an absence. If a student has an unexcused absence from the scheduled makeup exam, no additional makeup exam will be scheduled, and the exam will be treated as an unexcused absence.

One makeup test with a 20% penalty is allowed for an unexcused absence.

Regardless of whether an absence is excused or unexcused, the student is responsible for making up all work that is missed.

### **Grading Scheme**

The following grading standards will be used in this class

A = 91.50 and above

A- = 89.50-91.49

B+ = 87.50-89.49

B = 82.50-87.49

B- = 79.50-82.49

C+ = 77.50-79.49

C = 72.50-77.49

C- = 68.50-72.49

D = 62.50-68.49

D- = 58.50-62.49

F = below 58.49

## Required Materials

MyMathLab online subscription to Algebra & Trigonometry, Sullivan, 10<sup>th</sup> edition

A physical copy of the textbook is not required.

A method for scanning documents.

## Lecture Topics

### Weeks 1-4

- Angles & their measures
- Unit Circle Trigonometry
- Right Triangle Trigonometry

### Weeks 5-7

- Graphs of Sine & Cosine
- Translations of Sine & Cosine graphs
- Graphs of Tangent, Cotangent, Secant & Cosecant
- Inverse Trig Functions

### Weeks 8-10

- More on Inverse Trig Functions
- Solving Trig Equations
- Verifying Identities
- Sum & Difference Formulas
- Double & Half Angle Formulas

### Weeks 11-13

- Right Triangle Application Problems
- Law of Sines
- Law of Cosines
- Polar Coordinates

### Weeks 14-15

- Vectors
- Dot Product

## University Attendance Policy

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

## Academic Honor Policy

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and... [to] strive for personal and institutional integrity at Florida State University." (For more details see the FSU Academic Honor Policy and procedures for addressing alleged violations (<http://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policy>) .)

### **Americans With Disabilities Act**

Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

- (1) must register with and provide documentation to the Office of Accessibility Services (OAS);
- (2) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and,
- (3) should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor. Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided. This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the Office of Accessibility Services (Tallahassee Campus) (<https://dsst.fsu.edu/oas>)

874 Traditions Way  
108 Student Services Building Florida State University Tallahassee, FL 32306-4167 (850) 644-9566 (voice)  
(850) 644-8504 (TDD)  
[oas@fsu.edu](mailto:oas@fsu.edu) (<mailto:oas@fsu.edu>)

<https://dsst.fsu.edu/oas>  
Student Disability Services (Panama City Campus) (<https://pc.fsu.edu/students>

[/student-disability-services](#)) Office of Student Affairs 4750 Collegiate Drive  
2nd Floor Barron Building (Room 215) Florida State University Panama City Panama City, FL

32405

(850) 770-2172 (office)

(866) 693-7872 (toll free)

Email: [sds@pc.fsu.edu](mailto:sds@pc.fsu.edu) (<mailto:sds@pc.fsu.edu>) <https://pc.fsu.edu/students/student-disability-services>

### Free Tutoring from FSU

On-campus tutoring and writing assistance are available for many courses at Florida State University. For more information, visit the Academic Center for Excellence (ACE) Tutoring Services' comprehensive list of on-campus tutoring options - see the Academic Center for Excellence (ACE) Tutoring Services' website (<http://ace.fsu.edu/tutoring>) or

contact [tutor@fsu.edu](mailto:tutor@fsu.edu) (<mailto:tutor@fsu.edu>) . High-quality tutoring is available by appointment and on a walk-in basis. These services are offered by tutors trained to encourage the highest level of individual academic success while upholding personal academic integrity.

### Syllabus Change Policy

"Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice."

### Confidential campus resources:

Various centers and programs are available to assist students with navigating stressors that might impact academic

success. These include the following:

Victim Advocate Program University Center A, Room 4100, (850) 644-7161, Available 24/7/365 Office Hours: M-F 8-5 <a href="https://dsst.fsu.edu/vap">https://dsst.fsu.edu/vap</a>	University Counseling Center, Askew Student Life Center, 2ndFloor, 942 Learning Way  (850) 644-8255 <a href="https://counseling.fsu.edu/">https://counseling.fsu.edu/</a>	University Health Services Health and Wellness Center, (850) 644-6230 <a href="https://uhs.fsu.edu/">https://uhs.fsu.edu/</a>
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