**Plane Trigonometry**

Time:       MWF 9 – 9:50
Room:       ACR 204

Instructor:   Eric Funasaki
Office:       ACR 109C (MWF mornings) and BAB 210 (MWF afternoons and TR all day)
Phone:       432-837-8109
e-mail:       eric.funasaki@sulross.edu

## Office Hours:

MWF 8 – 8:50, MWF 11 – 11:50, or by appointment.

## Textbook:

*Trigonometry:  A Unit Circle Approach*, 9th edition, Michael Sullivan.
ISBN:   978-0-321-71710-8 (loose-leaf)
        978-0-321-75599-5 (softcover)
        978-0-321-71657-6 (hardcover)

## Course Description:

In-depth study and application of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles.  Additional topics such as vectors, polar coordinates and parametric equations may be included.

## Prerequisite:

Math 1314 College Algebra

## Course Objectives:

The student will be able to:
1.  Identify and work with trigonometric functions and their graphs;
2.  Identify and work with inverse trigonometric functions and their graphs;
3.  Solve trigonometric equations;
4.  Verify trigonometric identities; and
5.  Identify and work with polar coordinates.

## Mathematics Program Learning Objectives:

The student should be able to:
1.  Apply knowledge of basic mathematics principles;
2.  Identify and provide valid proofs or solutions for theorems or problems; and
3.  Recognize and dispute invalid mathematical statements using counterexamples.

**Course Assessment:**

Your grade will be based on the following components:
10%    In-class problems and participation
24%    Homework assignments and quizzes
48%    Exams
18%    Comprehensive Final Exam

The grading scale will be:
90 – 100 A      80 – 89 B      70 – 79 C      60 – 69 D      0 – 59 F

**Course Schedule (tentative):**

Week 1
    1/18    W    1.3 Functions and Their Graphs, 1.4 Properties of Functions
    1/20    F    1.4 Properties of Functions, 2.1 Angles and Their Measures

Week 2
    1/23    M    2.1 Angles and Their Measures
    1/25    W    2.2 Trigonometric Functions:  Unit Circle Approach
    1/27    F    2.2 Trigonometric Functions:  Unit Circle Approach

Week 3
    1/30    M    2.3 Properties of Trigonometric Functions
    2/1    W    2.3 Properties of Trigonometric Functions
    2/3    F    2.4 Graphs of the Sine and Cosine Functions

Week 4
    2/6    M    2.4 Graphs of the Sine and Cosine Functions
    2/8    W    2.5 Graphs of the Tangent, Cotangent, Cosecant, and Secant Functions
    2/10    F    2.6 Phase Shift

Week 5
    2/13    M    1.7 One-to-One Functions
    2/15    W    Review for Exam 1
    **2/17    F    Exam 1**

Week 6
    2/20    M    3.1 The Inverse Sine, Cosine, and Tangent Functions
    2/22    W    3.1 The Inverse Sine, Cosine, and Tangent Functions
    2/24    F    3.1 The Inverse Sine, Cosine, and Tangent Functions
                 3.2 The Inverse Trigonometric Functions (Continued)

Week 7
    2/27    M    3.2 The Inverse Trigonometric Functions (Continued)
    3/1    W    3.2 The Inverse Trigonometric Functions (Continued)
    3/3    F    3.3 Trigonometric Equations

<u>Week 8</u>
| | | |
|---|---|---|
| 3/6 | M | 3.3 Trigonometric Equations |
| 3/8 | W | 3.4 Trigonometric Identities |
| 3/10 | F | 3.4 Trigonometric Identities |

<u>Week 9</u>
| | | |
|---|---|---|
| **3/13** | **M** | **Spring Break (no class)** |
| **3/15** | **W** | **Spring Break (no class)** |
| **3/17** | **F** | **Spring Break (no class)** |

<u>Week 10</u>
| | | |
|---|---|---|
| 3/20 | M | 3.5 Sum and Difference Formulas |
| 3/22 | W | 3.5 Sum and Difference Formulas |
| 3/24 | F | 3.6 Double-angle and Half-angle Formulas |

<u>Week 11</u>
| | | |
|---|---|---|
| 3/27 | M | 3.6 Double-angle and Half-angle Formulas |
| 3/29 | W | Review for Exam 2 |
| **3/31** | **F** | **Exam 2** |

<u>Week 12</u>
| | | |
|---|---|---|
| 4/3 | M | 4.1 Right Triangle Trigonometry; Applications |
| 4/5 | W | 4.1 Right Triangle Trigonometry; Applications |
| 4/7 | F | 4.1 Right Triangle Trigonometry; Applications, 4.2 The Law of Sines |

<u>Week 13</u>
| | | |
|---|---|---|
| 4/10 | M | 4.2 The Law of Sines |
| 4/12 | W | 4.2 The Law of Sines |
| 4/14 | F | 4.2 The Law of Sines, 4.3 The Law of Cosines |

<u>Week 14</u>
| | | |
|---|---|---|
| 4/17 | M | 4.3 The Law of Cosines |
| 4/19 | W | 4.3 The Law of Cosines |
| 4/21 | F | 5.1 Polar Coordinates |

<u>Week 15</u>
| | | |
|---|---|---|
| 4/24 | M | 5.1 Polar Coordinates |
| 4/26 | W | 5.1 Polar Coordinates, 5.3 The Complex Plane; De Moivre's Theorem |
| 4/28 | F | 5.3 The Complex Plane; De Moivre's Theorem |

<u>Week 16</u>
| | | |
|---|---|---|
| 5/1 | M | 5.3 The Complex Plane; De Moivre's Theorem |
| 5/3 | W | Review for Exam 3 |
| **5/5** | **F** | **Exam 3** |

<u>Week 17</u>
| | | |
|---|---|---|
| 5/8 | M | Review for Final Exam |
| 5/10 | W | Review for Final Exam |

<u>Week 18</u>
| | | |
|---|---|---|
| **5/16** | **T** | **Final Exam (8 am – 10 am)** |

**Attendance Policy:**

Role will be taken.  You are responsible for all material covered in class as well as any assignments and announcements that are made.  If you miss an assignment, exam, or quiz you will receive a grade of zero unless I have been notified in advance.

Sul Ross State University policy allows an instructor to drop a student with a grade of W or F when 9 hours of class are missed.  For this course that is when you miss **9** classes.

**Cheating:**

Cheating will not be tolerated.  Anyone caught cheating will receive a grade of zero on that assignment.  This includes homework assignments where the student who copied another student's work and the student who allowed their work to be copied will both receive a grade of zero.

**Cell Phones and Other Electronic Devices:**

Your cell phone must be **off** while you are in class.  You may not read or send text messages while class is in session.  If there is an unusual situation where you simply must be able to read and send a message without delay, place your phone in vibrate mode and leave the room before reading and responding.  No other electronic devices may be used during class without the permission on the instructor.

**ADA Statement:**

Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973.  It is SRSU policy to provide reasonable accommodations to students with documented disabilities.  It is the student's responsibility to initiate a request each semester for each class.   Alpine students seeking accessibility/accommodations services must contact Mary Schwartze Grisham, M.Ed., LPC, SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email mschwartze@sulross.edu.  Our office is located on the first floor of Ferguson Hall (Suite 112) and our mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas 79832.

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