

**Angelo State University/ Wylie High School**  
**Math 2412.WY1 - Pre-Calculus**  
**Spring 2021**

**Instructor: Cynthia Cumby**

**M-F 8:15 – 9:03**

**Tutoring: M-F 7:50AM – 8:10AM  
& 3:40PM – 4:00PM**

**Room 410**

**Phone: 325-690-1181**

**E-mail: [ccumby@wylie.esc14.net](mailto:ccumby@wylie.esc14.net)**

**Text: Precalculus (6th ed.) by Robert Blitzer**

**Online Access Code: MyMathLab**

**MATH 2412 – PreCalculus**

We will be studying precalculus which includes an overview of topics from algebra, trigonometry and analytic geometry that are needed for calculus that are needed for calculus, including equations and inequalities, functions and inverse functions, trigonometric functions and equations.

**Credit: 4 semester hours**

**STUDENT LEARNING OUTCOMES**

- 1. The students will demonstrate an understanding of factual knowledge including the mathematical notation and terminology used in this course.** Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in precalculus pertaining to the real numbers; exponents and radicals; polynomials, factoring, and rational expressions; equations and inequalities; functions; polynomial and rational functions; inverse functions; exponential and logarithmic functions; graphs and their transformations; six trigonometric functions; types of angle measure and notation; parts of triangles and circles; parabolas, ellipses, and hyperbolas; asymptotes; and vectors.
- 2. The students will describe the fundamental principles including the mathematical rules and theorems arising from the concepts covered in this course.** Students will identify and apply the laws and formulas that result directly from the definitions; for example, rules of exponents, exponential and logarithmic properties, the quadratic formula, slope and formulas for the equations of lines, the fundamental trigonometric identities, properties of angles and triangles, characteristics of the trigonometric functions and inverse trigonometric functions, formulas of the conic sections, translation of axes, and formulas relating polar and rectangular coordinates.
- 3. The students will apply course material using techniques and procedures covered in this course to solve problems.** Students will utilize the facts, formulas, and the techniques learned in this course to simplify algebraic expressions; graph functions; solve equations; prove trigonometric identities; solve trigonometric equations; solve various types of triangle problems; and recognize and graph trigonometric and inverse trigonometric functions, conic sections, algebraic curves, polar equations, and parametric equations.
- 4. The students will develop specific skills, competencies, and thought processes sufficient to support further study or work in this field or related fields.** Students will acquire a level of proficiency in the fundamental concepts and applications in precalculus necessary for success in calculus.

## Course Schedule

<u>Class</u>	<u>Date</u>	<u>Section</u>
Week 1	1/04 – 1/07	P-1-P3
Week 2	1/10 – 1/14	2.2&2.6
Week 3	<b>1/17 – 1/21</b>	<b>(No School Monday)</b> 7.1-7.2
Week 4	1/24 – 1/28	7.3 -7.5
Week 5	1/31 – 2/04	Review <b>Test I</b> 4.1
Week 6	2/07 – 2/11	4.2-4.4
Week 7	2/14 - 2/17	4.5-4.6
Week 8	2/22 - 2/25	4.7, Review <b>Test II</b>
Week 9	2/28 – 3/06	5.1 & 5.2
Week 10	3/07– 3/11	<b>Spring Break</b>
	3/14 – 3/18	5.3-5.4
Week 11	3/22 - 3/25	5.5 Review <b>Test III</b>
Week 12	3/28 – 4/01	6.1(No School Friday)
Week 13	4/04 – 4/08	6.2-6.3,
Week 14	4/11 – 4/15	6.4, Review <b>Test IV</b>
Week 15	4/19 – 4/22	9.1,9.2
Week 16	4/25 – 4/29	9.3; Review <b>Test V</b> ;
Week 17	5/02 – 5/06	Review
	<b>5/11</b>	<b>Final Exam</b>

### Changes to the Syllabus:

The course schedule and procedures in the syllabus are subject to change if deemed appropriate by the instructor.

### Grading Policy:

5 Tests (Each worth 12% )	60 %	Grading Scale: A	100 – 90
MyMathLab Homework Average	10 %	B	89 - 80
Quizzes/ Daily work	10 %	C	79 - 70
1 Comprehensive Final Exam	<u>20 %</u>	D	69 - 60
Total	100 %	F	59 - 0

- At the end of the semester your lowest test grade (if it is lower than your final exam grade) will be **dropped and replaced** by your final exam grade.
- No make-up tests will be given.** If you should be unable to take a test, your score on the final exam will be substituted for that test. Any further absence on a test day will result in a grade of zero for that test.
- Homework assignments will be made for each section covered in the course using **MyMathLab**. You will need to self-enroll using the **Course ID: cumby25678**. Homework assignments will be completed and submitted online. No handwritten homework assignments will be accepted although bringing handwritten work to class is encouraged if you have questions that need answering. Homework assignments will be open for approximately one week from the day the assignment is made. Remember that you have 14 days of temporary access at the beginning of the semester before you must enter your access code that comes bundled with the textbook or purchased separately. Please see the **MyMathLab Student Registration Instructions** for more information.

**Attendance Policy:**

Each student is expected to maintain regular class attendance. If you must be absent, please contact the instructor as soon as possible. The instructor may be contacted by phone or computer. In fact, the student should make every attempt to notify the instructor before the next class meeting. If a test is missed, the test needs to be taken before the next class meeting so that the other students may receive their graded test and the test may be discussed in class.

If the student must be absent for a school-related function, the instructor should be given notice in advance by the sponsor of the function. This does not happen in many cases, so it becomes the responsibility of the student to notify the instructor well in advance so that arrangements may be made for make-up work. **If the student is to be gone on the day of a test, the test should be taken either before the absence, or the day the student returns. If the student is absent the day before a test, the student will be expected to take the test as soon as they return. Test dates will be announced well in advance.**

**Any student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence.**

**Academic Integrity:**

Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at <http://www.angelo.edu/forms/pdf/honorcode5.pdf>

**Students With Special Needs:**

Students who qualify for specific accommodations under the Americans With Disabilities Act (ADA) should notify the instructor the first week of class. It is the student's responsibility to provide the necessary documentation to the Special Populations Coordinator.

## Course Content

**Textbook:** *Precalculus*, 6<sup>th</sup> Edition, by Robert Blitzer. The following chapters including the particular sections listed are covered.

- P. Fundamental Concepts of Algebra:** Exponents and Radicals; Algebraic Expressions; Equations; Inequalities.
- 1. Functions and Graphs :** Rectangular Coordinate Systems; Graphs of Equations; Lines; Definition of Function; Graphs of Functions; Operations on Functions; Inverse Functions.
- 2. Polynomials and Rational Functions:** Quadratic Functions; Polynomial Functions of Degree Greater Than 2; Rational Functions.
- 3. Exponential, and Logarithmic Functions:** Exponential Functions; The Natural Exponential Function; Logarithmic Functions; Properties of Logarithms; Exponential and Logarithmic Equations.
- 4. Trigonometric Functions:** Angles; Trigonometric Functions of Angles; Trigonometric Functions of Real Numbers; Values of the Trigonometric Functions; Trigonometric Graphs; Additional Trigonometric Graphs; Applied Problems; The Inverse Trigonometric Functions.
- 5. Analytic Trigonometry:** Trigonometric Equations; The Addition and Subtraction Formulas; Multiple-Angle Formulas.
- 6. Additional Topics in Trigonometry:** The Law of Sines; The Law of Cosines; Vectors; The Dot Product; Polar Coordinates.
- 7. Systems of Equations and Inequalities:** Solving systems of linear equations with 2 and 3 variables; Partial Fractions; Systems of nonlinear equations in 2 variables; Systems of Inequalities
- 9. Conic Sections and Analytic Geometry:** Parabolas; Ellipses; Hyperbolas; Plane Curves and Parametric Equations.