

El Paso Community College

Syllabus

Part II

Official Course Description

SUBJECT AREA	<u>Mathematics</u>
COURSE RUBRIC AND NUMBER	<u>MATH 2412</u>
COURSE TITLE	<u>Pre-Calculus Math (C) (MNS)</u>
COURSE CREDIT HOURS	<u>4 4 ; 1</u> Credits Lec Lab

I. Catalog Description

In-depth combined study of algebra, trigonometry, and other topics for calculus readiness. **Prerequisite:** MATH 1314 with a "C" or better or by placement exam. (4:1). Lab fee.

II. Course Objectives

Upon completion of this course the student will comprehend some of the great ideas of mathematics, and will be able to demonstrate this understanding:

A. Unit I - The Trigonometric Functions and Applications of Trigonometry:

1. Angles and their measurements
2. Trigonometric functions and their graphs
3. Inverse trigonometric functions
4. Right angle trigonometry
5. Law of Sines and Law of Cosines
6. Vectors

B. Unit II – Trigonometric Identities, Conditional Equations, and Application of Trigonometry:

1. Basic identities
2. Verifying identities
3. Sum and difference identities
4. Double-angle and half-angle identities
5. Product and sum identities
6. Conditional trigonometric equations
7. Trigonometry form of complex numbers
8. Powers and roots of complex numbers
9. Polar equations (optional)
10. Parametric equations

C. Unit III – The Conic Sections:

1. Parabola
2. Ellipse and circle
3. Hyperbola
4. Rotation of axes
5. Polar equations of conics (optional)

- D. Unit IV – Series, Sequences, and Probability:
1. Sequences and series
 2. Arithmetic sequences and partial sum
 3. Geometric sequences and series
 4. Counting and permutations
 5. Combinations, labeling, and the Binomial Theorem
 6. Probability
 7. Mathematical Induction

EPCC Core Learning Outcomes

Upon successful completion of this course, students will:

1. Demonstrate effective written, oral, and/or visual **communication skills**.
2. Apply **critical thinking skills** by engaging in creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information.
3. Demonstrate **empirical and quantitative skills** by formulating an inquiry and then identifying and following an investigative process using empirical and/or qualitative/quantitative reasoning to satisfy the inquiry.

III. THECB Learning Outcomes (ACGM)

Upon successful completion of this course, students will:

1. Demonstrate and apply knowledge of properties of functions.
2. Recognize and apply algebraic and transcendental functions and solve related equations.
3. Apply graphing techniques to algebraic and transcendental functions.
4. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
5. Prove trigonometric identities.
6. Solve right and oblique triangles.

IV. Evaluation

- A. There will be at least three in class exams (100 points each) and one required in class comprehensive final exam to evaluate student learning for the course.
- B. Quiz grades and homework grades may also be used in the evaluation if the instructor so chooses. Refer to Instructor's Course Requirements for details.
- C. The laboratory is required, and the average of all lab grades will be used in the compilation of the final course grade.
- D. A challenge exam is available. There is a \$20 fee payable at the cashier's office on any campus. This test must be taken before the 12th day of class.
- E. Grades will be assigned according to the following scale:

<u>Average</u>	<u>Grade</u>
90-100	A
80-89	B
70-79	C
60-69	D
0-59 or for cheating	F

Note: "I" and "W" grades will be assigned whenever the appropriate assignments and deadlines have been met. To receive an I, the students must have completed at least 80% of the course with at least a 75 average. The proper forms must also be signed by both the student and the instructor before being submitted to the registrar.

V. Disability Statement (Americans with/Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.

VII. Title IX and Sex Discrimination

Title 9 (20 U.S.C. 1681 & 34 C.F.R. Part 106) states the following "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving Federal financial assistance." The Violence Against Women Act (VAWA) prohibits stalking, date violence, sexual violence, and domestic violence for all students, employees and visitors (male and female). If you have any concerns related to discrimination, harassment, or assault (of any type) you can contact the Assistant to the Vice President for Student and Enrollment Services at 915-831-2655. Employees can call the Manager of Employee Relations at 915-831-6458. Reports of sexual assault/violence may also be reported to EPCC Police at 915-831-2200.