

Syllabus

Official Course Description

SUBJECT AREA	<u>Mathematics</u>
COURSE RUBRIC AND NUMBER	<u>MATH 1314</u>
COURSE TITLE	<u>Precalculus I College Algebra and Geometry</u>
COURSE CREDIT HOURS	<u> 3 <u> 3 : 0 </u> Credits Lec Lab</u>

I. Catalog Description

Includes a review of the basic operations of algebra, solving equations and inequalities, functions and graphs, polynomial functions and equations, rational exponential and logarithmic functions and analytic geometry. **Prerequisite: MATH 0305 with a “C” or better, or by placement exam (3:1)**

II. Course Objectives

Upon satisfactory completion of the course, the student will be able to solve mathematical problems that relate to:

- A. Unit I – Equations, Inequalities, Modeling, Functions and Graphs:
 1. Equations in One Variable)
 2. Equations and Graphs in Two Variables
 3. Constructing Models to Solve Problems
 4. Quadratic Equations
 5. Linear, Absolute Value, Quadratic and Rational Inequalities
 6. Functions, Relations and their Graphs
 7. Families of Functions
 8. Operations with Functions; Constructing Functions; Finding Inverse Functions.

- B. Unit II – Polynomial and Rational Functions:
 1. Linear and Quadratic Functions
 2. Complex Numbers
 3. Zeros of Polynomial Functions
 4. Theory of Equations
 5. Graphs of Polynomial and Rational Functions

- C. Unit III – Exponential and Logarithmic Functions:
 1. Exponential Functions and Their Applications
 2. Logarithmic Functions and Their Applications
 3. Properties of Logarithms
 4. Equations and Applications of Exponential and Logarithmic Functions

- D. Unit IV – Systems of Equations and Inequalities, and using Matrices to Solve these Systems:
 1. Systems of Linear Equations in Two and Three Variables
 2. Nonlinear Systems of Equations
 3. Partial Fractions - optional
 4. Systems of Inequalities in Two Variables

5. Solving Linear Systems Using Matrices
6. Operations with Matrices and Finding Inverses of Matrices
7. Using Determinants to Solve Linear Systems - optional

III. Evaluation

It is suggested that four (4) unit tests be given. Quiz grades and homework grades may also be used in the evaluation of the final grade, if the instructor so chooses. A laboratory is required, and the average of all the lab grades will be equal to one unit test, and is used in compiling the final grade for the course. A comprehensive final exam is mandatory for all students.

The homework grade will be weighted no more than the weight of one exam; the comprehensive final exam will be weighted at least as much as one exam. The final exam can not be dropped.

A challenge exam is available for this course. There is a \$20 fee, payable at the cashier's office. This exam must be taken before the 12th day of class.

I and W Grades: The student is responsible for completing the necessary forms for I or W (except as noted below). I and W grades may be assigned whenever appropriate deadlines are met. To be eligible for an I, the student must complete 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.

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).