

Syllabus

Official Course Description

SUBJECT AREA	<u>Mathematics</u>
COURSE RUBRIC AND NUMBER	<u>MATH 0305</u>
COURSE TITLE	<u>Intermediate Algebra</u>
COURSE CREDIT HOURS	<u>3 3 : 0</u> Credits Lec Lab

I. Catalog Description

Involves an intensive study of operations of algebra. Topics include polynomials, factoring, rational expressions, radicals and fractional exponents, linear and quadratic equations and inequalities, functions and graphs of lines, parabolas and circles, system of equations, and exponential and logarithmic functions. May not be counted toward graduation requirements.

Prerequisite: Math 0303 with a “C” or better, or by placement exam. (3:0).

II. Course Objectives

Upon satisfactory completion of this course, the student will be able to:

- A. Unit I (Rational expressions)
 1. Simplify rational expressions.
 2. Multiply, divide, add, and subtract rational expressions.
 3. Simplify complex fractions.
 4. Solve rational equations and their applications.

- B. Unit II (Functions)
 1. Define a function and use function notation. .
 2. Combine functions using the four basic operations..

- C. Unit III (Inequalities)
 1. Solve compound inequalities and use interval notation for the answer. .
 2. Solve equations and inequalities involving absolute value..
 3. Graph linear inequalities in two variables.

- D. Unit IV (Radicals)
 1. Find even and odd roots.
 2. Simplify expressions containing rational exponents.
 3. Simplify radical expressions by factoring.
 4. Add, subtract, and multiply radical expressions.
 5. Rationalize the denominator of a radical expression.
 6. Solve equations containing radical expressions. .

- E. Unit V (Complex numbers, quadratic equations and functions)

1. Perform arithmetic operations with complex numbers.
 2. Solve quadratic equations using the square property and by completing the square.
 3. Solve quadratic equations using the quadratic formula.
 4. Graph quadratic functions. .
 5. Solve equations that are quadratic in form.
- F. Unit VI (Exponential and logarithmic functions; equations of circles)
1. Graph exponential functions.
 2. Find the composition of two functions and define inverse functions.
 3. Convert between logarithmic and exponential form and evaluate logarithms.
 4. Use the distance and midpoint formulas.
 5. Write an equation of a circle in standard form and graph circles.

III. Evaluations

- A. Students will be tested on all six units. If five exams are given, it is recommended that Units II and III be combined on one exam. See part III of the Instructor's Course Requirements for more information.

- B. The grade will be assigned based on the scale below.

A = 90 – 100
B = 80 – 89
C = 70 – 79
D = 60 – 69
F = Below 60

- C. For the attendance policy, refer to part IV of the Instructor's Course Requirements.

- D. 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).