

SYLLABUS

DATE OF LAST REVIEW:	12/2019
CIP CODE:	24.0101
SEMESTER:	Departmental Syllabus
COURSE TITLE:	Intermediate Algebra
COURSE NUMBER:	MATH0104
CREDIT HOURS:	3
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	Departmental Syllabus <i>KCKCC-issued email accounts are the official means for electronically communicating with our students.</i>
PREREQUISITE(S):	Students need to meet the correct placement measure for this course or have completed MATH0099 Elementary Algebra with a grade of “C” or better.

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore <http://www.kckccbookstore.com> for the required text for your particular class.

COURSE DESCRIPTION: Intermediate Algebra includes a brief review of Elementary Algebra: linear functions and graphs, rational expressions and equations, radical expressions and complex numbers, and quadratic equations and graphs. Students will be expected to use appropriate technology as one tool to achieve competency in Intermediate Algebra.

METHOD OF INSTRUCTION: A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

EXPECTED LEARNER OUTCOMES:

- A. The student will be able to perform arithmetic and algebraic manipulations.
- B. The student will be able to solve equations and inequalities.
- C. The student will be able to graph linear and quadratic functions on a coordinate plane.
- D. The student will be able to analyze equations and graphs.

COURSE OUTLINE:

- I. Arithmetic and Algebraic Manipulation
 - A. Quadratics
 - B. Rational expressions
 - C. Complex fractions
 - D. Rational exponents
 - E. Radicals
 - F. Complex numbers
 - G. Functions
 - H. Logarithms

- II. Equations and Inequalities
 - A. Linear inequalities
 - B. Literal equations
 - C. Systems of linear equations
 - D. Quadratic equations
 - E. Rational equations
 - F. Radical equations
 - G. Absolute value equations & inequalities
 - H. Mathematical models
 - 1. Variation
 - 2. Mixture
 - 3. Motion
 - 4. Work
 - 5. Geometry

- III. Graphs on a Coordinate Plane
 - A. Linear inequalities
 - B. Quadratic functions

- IV. Analysis of Equations and Graphs
 - A. Equation of a line
 - 1. Through two points
 - 2. Given particular conditions
 - B. Distance between two points
 - C. Functions and non-functions
 - 1. Vertical line test
 - 2. Domain and range

COURSE COMPETENCIES:

Upon successful completion of this course:

The student will be able to perform arithmetic and algebraic manipulations.

1. The student will be able to factor quadratic expressions, quadratic forms, special forms, and factor by grouping.
2. The student will be able to perform addition, subtraction, multiplication, and division on rational expressions.
3. The student will be able to simplify complex fractions.
4. The student will be able to apply the laws of exponents to simplify expressions containing rational exponents.
5. The student will be able to perform addition, subtraction, and multiplication on expressions involving radicals.
6. The student will be able to simplify radicals by rationalizing denominators.
7. The student will be able to simplify radicals containing negative radicands.
8. The student will be able to perform operations involving complex numbers.
9. The student will be able to evaluate functions using functional notation.

The student will be able to solve equations and inequalities

10. The student will be able to solve linear inequalities with one variable, show the solution both on a real number line and in interval notation.
11. The student will be able to solve literal equations including those that require factoring.
12. The student will be able to solve systems of linear equations in two variables.
13. The student will be able to solve quadratic equations by factoring and by using the quadratic formula.
14. The student will be able to solve equations containing rational expressions.
15. The student will be able to solve equations containing radicals.
16. The student will be able to solve linear absolute value equations and inequalities in one variable.
17. The student will be able to develop and solve mathematical models including variation, mixture, motion, work, and geometrical applications.

The student will be able to graph linear and quadratic functions on a coordinate plane.

18. The student will be able to graph linear inequalities on a coordinate plane.
19. The student will be able to graph quadratic functions on a coordinate plane.

The student will be able to analyze equations and graphs.

20. The student will be able to determine an equation of a line given two points.
21. The student will be able to determine the equation of a line given a particular condition, e.g., perpendicular or parallel to a given line through a specific point, through a specific point with a given slope.
22. The student will be able to calculate the distance between two points.
23. The student will be able to distinguish between functions and relations using the vertical line test.
24. The student will be able to identify the domain and range of a function given its graph.

ASSESSMENT OF LEARNER OUTCOMES:

Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation.

The course grade is determined by this grading scale:

A = 90% and above

B = 80-89%

C = 70-79%

D = 60-69%

F = 59% and below

A comprehensive, proctored departmental final exam will be given in all sections of Intermediate Algebra. This final exam will count a minimum of 25% of each student's course grade.

SPECIAL NOTES:

Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

All enrolled students at Kansas City Kansas Community College are subject to follow all rules, conditions, policies and procedures as described in both the Student Code of Conduct as well as the Student Handbook. All Students are expected to review both of these documents and to understand their responsibilities with regard to academic conduct and policies. The Student Code of Conduct and the Student Handbook can be found on the KCKCC website.

STATEMENTS ON NON-DISCRIMINATION, HARASSMENT AND VIOLENCE, AND EDUCATIONAL EQUALITY

Non-Discrimination Policy Statement

Kansas City Kansas Community College is committed to promoting and sustaining a campus community which identifies and values the individuality of every community member and is dedicated to maintaining a positive environment where diversity is encouraged and fostered throughout the college. KCKCC strongly believes that diversity generates a positive image and awareness and community strength that encourages active involvement and helps enhance organizational effectiveness and culture. KCKCC prohibits discrimination on the basis of race, religion, color, sex (including pregnancy, gender identity, and sexual orientation), parental status, national origin, age, disability, family medical history or genetic information, political affiliation, military service, or other non-merit based factors. All college actions and policies comply with all state, federal and local laws and regulations.

Harassment and Violence Statement

Kansas City Kansas Community College is committed to providing a non-discriminatory and harassment-free educational, living and working environment for all members of the campus community, including students, faculty, administrators, staff, trustees or visitors. This policy prohibits all forms of sexual or gender-based harassment and sexual assault.

Title IX, regulated by the Office of Civil Rights, prohibits discrimination on the basis of sex in federally funded education programs and activities. All schools who receive any federal financial assistance must comply with Title IX.

Deputy Title IX Coordinator: Sean Burkett, Employee Relations Manager, sburkett@kckcc.edu or 913-288-7269, 7250 State Avenue, Kansas City, Kansas 66112.

Educational Equality Statement

Kansas City Kansas Community College is committed to a policy of educational equity. Accordingly, the College admits students, grants financial aid and scholarships, and conducts all educational programs, activities, and employment without regard to race, color, creed, religion, sex, national origin, age, sexual orientation, marital status, ancestry, veteran status, or disabilities.

Any person having inquiries concerning College compliance with regulations Implementing Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, or the American with Disabilities Act of 1990, is directed to contact Human Resources, Kansas City Kansas Community College, 7250 State Avenue, Kansas City, Kansas 66112, Telephone (913) 288-7646.

Any person needing access to academic programs or college activities due to a documented disability is directed to contact the Student Accessibility and Support Services, 913-288-7664 for accommodations.

More information on these statements and additional resources are available through the links below.

<http://www.kckcc.edu/footer/statements>

<http://www.kckcc.edu/services/reporting/titleix>

<http://www.hhs.gov/ocr/office/file>