**BARTON COMMUNITY COLLEGE**

**COURSE SYLLABUS**

1. **GENERAL COURSE INFORMATION**

Course Number: MATH 1824

Course Title: Intermediate Algebra

Credit Hours: 3

Prerequisites: MATH 1821 Basic Algebra with a grade of C or better or appropriate placement

 score

Division/Discipline: Academic Division/Mathematics

Course Description: Topics include properties of real numbers, linear and quadratic equations, equations of lines, operations on polynomials and factoring, operations on rational expressions, functions, graphs of linear and quadratic functions, complex numbers, integer and rational exponents, radicals, systems of linear equations, and linear and quadratic inequalities.

1. **INSTRUCTOR INFORMATION**
2. **COLLEGE POLICIES**

Students and faculty of Barton Community College constitute a special community engaged in the process of education. The College assumes that its students and faculty will demonstrate a code of personal honor that is based upon courtesy, integrity, common sense, and respect for others both within and outside the classroom.

Plagiarism on any academic endeavors at Barton Community College will not be tolerated. The student is responsible for learning the rules of, and avoiding instances of, intentional or unintentional plagiarism. Information about academic integrity is located in the Student Handbook.

The College reserves the right to suspend a student for conduct that is determined to be detrimental to the College educational endeavors as outlined in the College Catalog, Student Handbook, and College Policy & Procedure Manual. [Most up-to-date documents are available on the College webpage.]

Any student seeking an accommodation under the provisions of the Americans with Disability Act (ADA) is to notify Student Support Services via email at disabilityservices@bartonccc.edu.

1. **COURSE AS VIEWED IN THE TOTAL CURRICULUM**

This course is designed to prepare the student, who has completed a study of basic algebraic concepts, for successful completion of College Algebra. The course will strengthen many concepts learned in Basic Algebra and will introduce several of the concepts which will be explored in depth in College Algebra.

Intermediate Algebra is a general education course and may be used to help fulfill credit requirements. The transferability of all college courses will vary among institutions, and perhaps even among departments, colleges, or programs within an institution. Institutional requirements may also change without prior notification. It is the student’s responsibility to obtain relevant information from intended transfer institutions to insure that the courses the student enrolls in are the most appropriate set of courses for the transfer program.

**V. ASSESSMENT OF STUDENT LEARNING**

Barton Community College is committed to the assessment of student learning and to quality education. Assessment activities provide a means to develop an understanding of how students learn, what they know, and what they can do with their knowledge. Results from these various activities guide Barton, as a learning college, in finding ways to improve student learning.

Course Outcomes, Competencies, and Supplemental Competencies

A. Perform arithmetic and algebraic manipulation on expressions.

1. Factor quadratic expressions including techniques of GCF, grouping, difference of two square, sum and difference of cubes, perfect square trinomials and general factoring methods.
2. Perform addition, subtraction, multiplication, and division on rational expressions.
3. Simplify complex fractions.
4. Apply the laws of exponents to simplify expressions containing rational exponents.
5. Apply the laws of radicals to perform, addition, subtraction, and multiplication.
6. Rationalize denominators containing radicals.
7. Simplify radicals containing negative radicands.
8. Perform operations with complex numbers.
9. Evaluate functions using function notation.

B. Solve equations and inequalities.

1. Solve linear inequalities in one variable showing solution on a number line and in interval notation.
2. Solve equations with more than one variable including those that require factoring.
3. Solve systems of linear equations in two variables.
4. Solve equations by factoring and quadratic formula.
5. Solve equations containing rational expressions.
6. Solve equations containing radicals.
7. Solve linear absolute value equations and inequalities in one variable.
8. Develop and solve mathematical models including applications.

C. Graph in the coordinate plane.

1. Graph linear equations in two variables.
2. Graph linear inequalities in two variables.
3. Graph quadratic functions.

D. Develop models (equations) and analyze their graphs

1. Determine an equation of a line given two points, perpendicular to a given line, through a specific point, parallel to a given line through a specific point.
2. Calculate the distance between two points.
3. Distinguish between functions and non-functions using the vertical line test.
4. Identify the domain and range of a function given its graph.

**VI. INSTRUCTOR’S EXPECTATIONS OF STUDENTS IN CLASS**

**VII. TEXTBOOKS AND OTHER REQUIRED MATERIALS**

**VIII. REFERENCES**

**IX. METHODS OF INSTRUCTION AND EVALUATION**

**X. ATTENDANCE REQUIREMENTS**

**XI. COURSE OUTLINE**