BERGEN COMMUNITY COLLEGE
DIVISION OF MATHEMATICS, SCIENCE AND TECNOLOGY
DEPARTMENT OF MATHEMATICS

COURSE SYLLABUS

MAT-160 INTERMEDIATE ALGEBRA

COURSE DESCRIPTION: The study of polynomial and rational expressions, integral and fractional expressions, integral and fractional exponents, roots and radicals, linear and quadratic equations, functions, elementary curve sketching, inequalities.

CREDITS/HOURS: 4 credits 4 hours

PREREQUISITE: MAT-032 or 035 or 044 or 048 with a grade of C or better or equivalent by testing.

GENERAL EDUCATION COURSE: NO

STUDENT LEARNING OBJECTIVES: **Upon successful completion of this course, the student will be able to:**

1. Solve equations in one variable, including linear, quadratic, quadratic in form, and those containing rational expressions, radicals, or absolute value.
2. Identify the differences between functions and relations.
3. Evaluate functions and perform operations with functions.
4. Factor algebraic expressions.
5. Simplify arithmetic and algebraic expressions including those containing rational expressions, rational exponents, radicals, or complex numbers.
6. Solve inequalities in one variable including linear, quadratic and those containing absolute value.
7. Graph linear, quadratic, logarithmic and exponential functions.
8. Find the equations of lines, parabolas, and circles given certain conditions, and apply this knowledge to concrete applications.

ASSESSMENT MEASURES: Each of the above listed student learning objectives will be assessed by,

1. Written assignments and/or quizzes.
2. Written examinations
3. Other, as announced by the instructor

COURSE GRADE: Students should refer to the instructor's grading policy which will be distributed during the first meeting of the class.

NOTE: **A <u>COMPREHENSIVE</u> <u>DEPARTMENTAL</u> FINAL EXAMINATION WILL COUNT 25% OF THE COURSE GRADE.**

TEXTBOOK: <u>Intermediate Algebra</u>, Messersmith, Vega-Rhodes, Feldman, 2nd Edition, MCGraw Hill Publisher, Custom Edition for Bergen Community College

COURSE CONTENT:

TOPIC	SECTIONS (including the "Putting It All Together" sections)
Absolute-Value Equations and Inequalities	2.1*, 2.3 (part 4 only)*, 3.1*, 3.2*, 3.3
Linear Equations in Two Variables and Functions	4.1*, 4.2*, 4.3*, 4.5
Polynomials and Polynomial Functions	56.1*, 6.2(section 1 only)* 5.3*, 6.4*, 6.5, 7.1 – 7.4 7.5 (Pythagorean Theorem Only)
Rational Expressions, Equations, and Functions	8.1*, 8.2*, 8.3, 8.4
Radicals and Rational Exponents	9.1 – 9.8
Quadratic Equations and Functions	10.1 – 10.3, 10.5, 10.7 (Quadratic Inequalities Only)
Exponential and Logarithmic Functions	11.1 – 11.5
Other Functions; the Circle	12.1, 12.2
Systems of Equations	5.1*, 5.2, 12.5
Conic Sections	10.6, 12.3, 12.4

*** Brief Review**

ELECTRONIC DEVICES: **The Department of Mathematics prohibits the use of cell-phones, PDA's, laptops, headphones, IPODs and other such devices in mathematicsclasses unless Otherwise specified in the grading policy provided by the instructor at the beginning of the semester.**

FACULTY ABSENCE PROCEDURE: CLASS CANCELLATIONS may be found at www.bergen.edu/classcancellations and a list is also posted in a glass case near A-129, the main corridor on the first floor in Ender Hall. If a cancelled class is not listed, it should be reported to the Mathematics Department Office or the Adjunct Office (C-107).

WEBSITE: Go to www.bergen.edu/academics/academic-divisions-departments/mathematics for more information regarding the Mathematics Department.

STUDENT SUPPORT SERVICES:	Learning Assistance Center	Room: L-125	879-7489
	Math and Science Walk-In	Room: L-131	879-7489
	Office of Specialized Services	Room: L-115	612-5269