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:
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 COMPREHENSIVE DEPARTMENTAL FINAL EXAMINATION WILL COUNT 25% OF THE COURSE GRADE.

Custom Edition for Bergen Community College
### COURSE CONTENT:

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>SECTIONS (including the “Putting It All Together” sections)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute-Value Equations and Inequalities</td>
<td>2.1*, 2.3 (part 4 only)<em>, 2.5</em>, 2.6*, 2.7</td>
</tr>
<tr>
<td>Linear Equations in Two Variables and Functions</td>
<td>3.1*, 3.2*, 3.3*, 3.5</td>
</tr>
<tr>
<td>Polynomials and Polynomial Functions</td>
<td>5.1*, 5.2(section 1 only)<em>5.3</em>, 5.4*, 5.5, 6.1 – 6.4</td>
</tr>
<tr>
<td></td>
<td>6.5 (Pythagorean Theorem Only)</td>
</tr>
<tr>
<td>Rational Expressions, Equations, and Functions</td>
<td>7.1*, 7.2*, 7.3, 7.4</td>
</tr>
<tr>
<td>Radicals and Rational Exponents</td>
<td>8.1 – 8.8</td>
</tr>
<tr>
<td>Quadratic Equations and Functions</td>
<td>9.1 – 9.3, 9.5, 9.7 (Quadratic Inequalities Only)</td>
</tr>
<tr>
<td>Exponential and Logarithmic Functions</td>
<td>10.1 – 10.5</td>
</tr>
<tr>
<td>Other Functions; the Circle</td>
<td>11.1, 11.2</td>
</tr>
<tr>
<td>Systems of Equations</td>
<td>4.1*, 4.2, 11.5</td>
</tr>
<tr>
<td>Conic Sections</td>
<td>9.6, 11.3, 11.4</td>
</tr>
</tbody>
</table>

* Brief Review

### ELECTRONIC DEVICES:
The Department of Mathematics prohibits the use of cell-phones, PDA’s, laptops, headphones, IPODs and other such devices in mathematics classes 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 [http://www.bergen.edu/classcancellations](http://www.bergen.edu/classcancellations)
A list is also posted in a glass case near A-129, the main corridor on the first floor and in Ender Hall. Students may consult these listings before going to class. If a cancelled class is not listed, it should be reported to the Department Office (A-327) or the Adjunct Office (C-107).

### WEBSITE:
Go to [http://www.bergen.edu/academics/academic-divisions-departments/mathematics](http://www.bergen.edu/academics/academic-divisions-departments/mathematics) for more information regarding the Mathematics Department.

SP’16