MATH 111 College Algebra

Course Description
Builds on the fundamentals of algebra developed in basic and intermediate courses. Extends the students' knowledge and skills in algebra through practical applications related to real world situations.

Course prepared by: Mathematics Department January 2003

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<th>Hours per Week</th>
<th>Number of Weeks</th>
<th>Total Hours</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Lecture</td>
<td>4</td>
<td>16</td>
<td>64</td>
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<tr>
<td>Laboratory</td>
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<td>Clinical</td>
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<td>Seminar</td>
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<td>Field</td>
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Total Credit Hours 4

Purpose of Course:
- Degree Requirement
- Degree Elective X
- General Education X
- Certification
- Developmental
- Community Education
- Other

Prerequisite(s) MATH 90s or Placement into Credit Math

Signature, Curriculum Committee Chairperson 8/6/15

Signature, Dean of Academic Affairs 8/6/15

Signature, Vice President of Academic and Student Affairs 8/6/15

Last Date reviewed or revised: April 2015
I. **College Algebra**

**Course Title**

II. **Course Objectives**

A. **General Learning Outcomes**

The student will:

1. Use the properties of algebraic expressions (GE 5) (LA 4)
2. Model real world situations using selected algebraic functions and equations (GE 5) (LA 4)
3. Evaluate and graph selected functions and relations (GE 5) (LA 4)
4. Use technology in solving real world problems (GE 5) (LA 5)
5. Reflect on solutions and communicate their reasoning (GE 3) (LA 4)

B. **Student Learning Outcomes**

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

1. Solve equations and inequalities using the properties of algebraic expressions
2. Solve real world problems by utilizing selected functions and equations
3. Integrate graphing techniques to show how functions relate to equations and graphs
4. Utilize and apply technology to solve real world problems
5. Verify and communicate the significance of solutions of selected equations, inequalities, and systems of linear or nonlinear equations

III. **Course Content**

This course provides the student with practical applications and approaches to real world situations using algebra.

1. Properties of exponents, radicals, and methods in factoring
2. Quadratic, rational, radical, and absolute value equations and inequalities
3. Functions, relations, and graphing
4. Exponential and logarithmic functions and their properties
5. Exponential and logarithmic equations
6. Systems of linear equations and nonlinear equations

IV. **Methods of Instruction**

1. Lecture
2. Cooperative group activities
3. Whole-class activities
V. Equipment and Materials

1. Rulers
2. Geometric tools
3. Scientific and graphing calculators
4. Math videos
5. Projector
6. Computer software programs

VI. Suggested Methods of Evaluation

1. Participation
2. Direct observation
3. Homework
4. Class work
5. Quizzes
6. Exams
7. Projects

Letter grades will be assigned per CMI Grading System