I. COURSE DESCRIPTION:
This course is designed to help students develop the algebra skills needed for advanced college-level mathematics. This course includes a review of the real number system and its application to solving linear and quadratic equations. Topics also include graphing and solving systems of equations and inequalities. This course requires three class hours and two laboratory hours each week. This course does not meet general education mathematics requirements. Four credit hours are awarded. Prerequisite: MTH 092, acceptable mathematics diagnostic assessment scores, or permission of the department head. This course is usually offered in the fall, spring, and summer.

II. COURSE MATERIALS:
Students are required to have an access code for MyMathTest, a graphing calculator TI-83 plus/TI-84, and a separate math notebook.

III. COURSE GOALS:
The overall goal of this course is to develop and expand the algebraic concepts and skills required for further academic study.

IV. COURSE OBJECTIVES AND ASSESSMENT GOALS, AND ASSESSMENT STRATEGIES:
Upon successful completion of the course, students will demonstrate the ability to:

<table>
<thead>
<tr>
<th>Course Objectives</th>
<th>Assessment Goals</th>
<th>Assessment Strategies</th>
</tr>
</thead>
</table>
| 1. Solve equations with one unknown. | A. Solve a linear equation by applying inverse operations.  
B. Solve a quadratic equation by factoring.  
C. Solve applied word problems by using equations. | In-class activities 
Homework 
Lab work 
Test questions 
Exam questions |
| 2. Solve and graph equations and inequalities. | A. Solve a compound inequality and graph the solution.  
B. Solve an absolute value equation.  
C. Solve an absolute value inequality and | In-class activities 
Homework 
Lab work 
Test questions |
B. Solve application problems requiring the use of a system of linear equations. | Exam questions  
In-class activities  
Homework  
Lab work  
Test questions  
Exam questions |
| 4. Use rational expressions. | A. Simplify a rational expression.  
B. Simplify the product of two or more rational expressions.  
C. Simplify the quotient of two or more rational expressions.  
D. Find the LCD and add or subtract two or more rational expressions.  
E. Simplify complex rational expressions.  
F. Solve a rational equation.  
G. Solve application problems requiring the use of a rational equation.  
H. Solve problems involving dimensional analysis | Exam questions  
In-class activities  
Homework  
Lab work  
Test questions  
Exam questions |
| 5. Use radical expressions. | A. Simplify expressions with rational exponents.  
B. Evaluate radical expressions.  
C. Evaluate higher order radical expressions.  
D. Change radical expressions to expressions with rational exponents.  
E. Change expressions with rational exponents to radical expressions.  
F. Simplify a radical using the power rule.  
G. Add, subtract, multiply and divide radical expressions.  
H. Simplify a radical expression by rationalizing the denominator.  
I. Solve a radical equation. | Exam questions  
In-class activities  
Homework  
Lab work  
Test questions |
| 6. Use complex numbers | A. Simplify expressions involving complex numbers.  
B. Add, subtract, multiply and divide complex numbers.  
C. Evaluate complex numbers in the form of $i^n$. | Exam questions  
In-class activities  
Homework  
Lab work  
Test questions |
| 7. Use quadratic equations. | A. Solve a quadratic equation by the square root method.  
B. Solve a quadratic equation by completing the square.  
C. Solve a quadratic equation using the quadratic formula. | Exam questions  
In-class activities  
Homework  
Lab work  
Test questions |
D. Use the discriminant to determine the nature of the roots of a quadratic equation.
E. Solve problems requiring the use of the Pythagorean Theorem.
F. Find the vertex and intercepts of a quadratic function.
G. Graph a quadratic function using appropriate technology.

8. Use algebraic functions.
   A. Evaluate expressions using function notation.
   B. Determine whether a relation is a function.
   C. Find the sum, difference, product and quotient of two functions.
   D. Find the composition of two functions.
   E. Determine whether a function is one-to-one.
   F. Find the inverse of a function.
   G. Graph a function and its inverse.

9. Use exponential and logarithmic functions.
   A. Graph an exponential function.
   B. Solve exponential equations.
   C. Solve application problems requiring the use of an exponential equation.
   D. Write exponential equations in logarithmic form.
   E. Write logarithmic equations in exponential form.
   F. Solve logarithmic equations.

V. LEARNING EXPERIENCES:
In order to meet the course objectives, each student is expected to:
   A. Attend class and participate in class discussions, learning activities and assignments.
   B. Complete Math Lab assignments
   C. Complete homework assignments
   D. Complete tests for each unit of study

VI. GENERAL REQUIREMENTS:
Each student will pursue a program of study that includes classroom lectures, problem practicing, cooperative learning, textbook and writing assignments using electronic databases, chapter testing and Math Lab exercises.

VII. MATH LAB (AAB 227)
Math Lab Additional lab experience IS REQUIRED to reinforce skills introduced in class and to master additional calculator techniques. Specific assignments will be listed on the Study Plan in MyMathTest. Students will have the chance to complete lab assignments at locations other than the math lab with instructor approval. Lab instructors are available to assist students with lab work, homework and projects.

**MATH LAB HOURS**

**Summer 2010**

Room 227 AAB

- Monday & Wednesday 8:30 a.m. – 9 p.m.
- Tuesday & Thursday 8:30 a.m. – 8 p.m.
- Friday 8:30 – 12 noon
- Saturday closed
- Sunday 12 p.m. – 4 p.m.

Withdrawal: A student may choose to withdraw from a course for individual reasons at any time prior to the posted date for the “Last Day To Withdraw”. If you have made the decision to withdraw from the course, please complete the necessary paperwork; do not rely on me to do it for you. After the posted withdraw deadline, all students still on the course roster MUST be given a letter grade in the course.

**VIII. POLICIES REGARDING ATTENDANCE, LATENESS, HOMEWORK ASSIGNMENTS, LAB ASSIGNMENTS, AND TESTING:**

1. **Attendance policy** – Students are expected to attend all class sessions, be there on time, and stay for the entire duration of the class. Students are expected to come prepared for class with notebook, paper, pencils, calculator, as well as completed assignments to turn in for a grade. If an emergency arises and the student cannot attend the class the student is expected to contact the instructor by phone or email and make arrangements to turn in the assignment that is due that day.

2. **Lateness and Leaving Early** – In order to get the most out of this class students are expected to be on time to classes and contact the instructor in advance if there is an emergency that will cause the student to be late, or need to leave early. Contact can be made by voice mail or phone at the numbers listed on the front page of this syllabus. Treat this as a professional appointment, plan around it, and do not schedule a doctor or dentist appointment during this time.

3. **Homework Assignments** – Assignments are given every class session and will be due the following class session. Keep in mind that the amount of time needed to devote to any college class requires the ratio of 2 to 3 hours outside of class to every 1 hour you spend in class. This means you
can expect to spend 6 hours or more each week outside of class completing homework, lab assignments, reading the text, going over your class notes, and preparing for tests. Late assignments will be given no credit. It is important that you keep up with the assignments since the progression from one unit to the next requires a good understanding of each previous unit in the progression.

4. **Lab Assignments** – Students are expected to attend Math Lab for the time needed to complete the weekly course work. Student may use the MyMathTest website at home or in the math lab to complete lab assignments. When coming to the math lab make sure you sign in using the computer by the door. Your instructor will be monitoring your lab visits and your computer assignments in order to see that you are making progress in the course.

5. **Electronic Devices** – It is disruptive to the learning of the students in the classroom to be interrupted by the beeps, rings, and hums of electronic devices in the classroom. For the 3 hours we are together I ask that you turn off and put away pagers, phones, headphones, and electronic devices,

IX. **COMMUNICATIONS:**
When communicating by e-mail with any instructor, it is expected that students write memos and letters in proper written English. E-mails are to include the student name in the subject area of the sending form. Letters are to include the date, greeting, body, and closing. Instructors may limit the number of e-mails requesting missed work; students are responsible for contacting other students in the class for their assignments.

X. **EVALUATION AND GRADING:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Tests and Quizzes</td>
<td>40%</td>
</tr>
<tr>
<td>Homework</td>
<td>25%</td>
</tr>
<tr>
<td>Math Lab Assignments</td>
<td>35%</td>
</tr>
</tbody>
</table>

The grade report will list one of the following:

- **A** 92% - 100%
- **B** 83% - 91%
- **C** 75% - 82%
- **R** 70% - 74%  Reregister – The student is required to register for MTH 099 the following semester. If the student does not register for MTH 099 the following semester the **R** automatically becomes an **F**.
- **F** 69% or below

XI. **TENTATIVE CLASS SCHEDULE:**
The following is a general course schedule:

<table>
<thead>
<tr>
<th>Class</th>
<th>Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2</td>
<td>Module 1 – Solving Equations &amp; Factoring Review</td>
</tr>
</tbody>
</table>
XII. **CLASSROOM CONDITIONS:**
Appropriate classroom behavior is expected of all college students. If any behavior disrupts other students from the task of learning, this behavior will not be acceptable in a college classroom. Examples of such behavior include talking loudly or out of turn, monopolizing a discussion, making disrespectful comments, coming in late or leaving early. The code of student conduct is detailed in the College catalog. Violations of this policy will be documented. Disciplinary actions may include meetings with the instructor and/or the department head, submission to the Student/Faculty Disciplinary Committee, probation, suspension and dismissal.

XIII. **ACADEMIC INTEGRITY:**
Academic integrity is expected of all students. Cheating and plagiarism are violations of academic integrity. Any student found violating the academic policy will receive an automatic “0” for the assignment and then the matter will be turned over to the Student Disciplinary Committee.

**Plagiarism:** In both oral and written communication, the following guidelines for avoiding plagiarism must be followed:

1. Any words quoted directly from a source must be in quotation marks and cited.
2. Any paraphrasing or rephrasing of the words and/or ideas of a source must be quoted.
3. Any ideas or examples derived from a source that are not in the public domain or of general knowledge must be quoted.
4. **ALL PAPERS AND PRESENTATIONS MUST BE THE STUDENT’S OWN WORK.**

There are ambiguities in concepts of plagiarism. Each instructor will be available for consultation regarding any confusion a student may have.

**Cheating:** Cheating is the act of obtaining information or data improperly, or by dishonest or deceitful means. Examples of cheating are copying from another student’s test paper, obtaining information illegally on tests, and using crib notes or other deceitful practices. The college guidelines concerning academic misconduct will be strictly enforced in this course. Please refer to the Appendix of the current catalog for the full description of policies pertaining to student conduct.

XIV. **Emergency on campus:** In the event of a flu epidemic or other emergency that results in the suspension of classes, faculty will be communicating with students about their courses and course requirements, such as assignments, quiz and exam
dates, and class and grading policies, via faculty websites or Blackboard. Students will be responsible for completing all these assignments in accordance with class policies. Information about resumption of classes will be communicated via the College’s website and email system.