I. COURSE DESCRIPTION:
This is the first course in a two-semester sequence of intermediate algebra and trigonometry with technical applications. Course topics include a review of the fundamental concepts of algebra, units of measurement and approximate numbers, functions and graphs, trigonometric functions, ratio, proportion and variation, systems of linear equations, determinants, factoring, rational expressions, quadratics, inequalities, and geometry, (areas and perimeters of common plane figures, volumes and surface areas of common solids). The graphing calculator will be used throughout the course. This course meets the SUNY General Education course requirements for mathematics.

II. COURSE PREREQUISITE:
MAT 100—Introductory Algebra or equivalent
III. TEXT AND MATERIALS:
  ISBN-10: 0138142254
- A graphing calculator (the TI-83 Plus and TI-84 Plus are strongly recommended)
- Pencils
- A 3-ring binder (recommended)
- A highlighter (recommended)

Supplemental Resources (not required):
CourseCompass with MyMathLab is an online course that can be used to access online activities and resources, such as video lectures, practice problems, and sample tests. You need a MyMathLab Student Access Code to access the course.

IV. COURSE OBJECTIVES AND SUNY GENERAL EDUCATION KNOWLEDGE AREA LEARNING OUTCOMES

Course Objectives
As the result of instructional activities, students will be able to:
1. Perform the fundamental operations (addition, subtraction, multiplication, division) with algebraic expressions.
2. Solve equations to include linear, rational and quadratic.
3. Identify geometric shapes and formulas (including area, perimeter, volume, and surface area) and relate them to application problems.
4. Use units of measure and approximate numbers in calculations.
5. Define and evaluate trigonometric functions of acute angles.
6. Analyze and solve applications of right triangles.
7. Write polynomials in factored form.
8. Perform the fundamental operations on rational expressions.
9. Interpret and graph the equations of a straight line.
10. Graph and interpret functions.
11. Solve systems of linear equations graphically, algebraically, and by determinants.
12. Solve inequalities by algebraic and graphing methods.
13. Analyze and solve proportion and variation problems.
14. Analyze and solve word problems that involve the use of linear and rational equations, inequalities, and functions.

SUNY General Education Knowledge Area Learning Outcomes
Students will demonstrate the ability to:
1. interpret and draw inferences from mathematical models such as formulas, graphs, tables and schematics;
2. represent mathematical information symbolically, visually, numerically and verbally;
3. use arithmetical, algebraic, geometric and statistical methods to solve problems;
4. estimate and check mathematical results for reasonableness, determine alternatives and select optimal results; and
5. recognize the limits of mathematical and statistical methods.
V. ATTENDANCE POLICY
In order to successfully learn and master the mathematical concepts presented in this course, it is extremely important that you attend all classes. When an absence is entirely unavoidable, you are responsible for contacting me, preferably prior to the class. Please understand that you are accountable for all material presented during the class session and all work assigned. You can access the guided notes from my faculty website.

As per college policy, any student who misses more than 15% of the class sessions may be involuntarily withdrawn from class. For this class, it means that any student who misses 4 or more classes BY MIDTERM may be issued a non-completion grade of "WY".

As per College policy, the last day to withdraw from the class with a grade of “W” is the end of the tenth week of the semester. Please note that for the Spring 2009 semester, the last day to withdraw without penalty from this class is APRIL 1.

VI. COURSE LEARNING AND ASSESSMENT ACTIVITIES

Class Lessons
I will present the material in this course as a series of PowerPoint lectures, supplemented by numerous examples and applications. You will receive handouts of the guided notes at the start of the chapter. I will be integrating the use of the TI-83/84 graphing calculator throughout the lessons, using the TI emulator and TI Interactive software to demonstrate specific skills. I will provide opportunities for you to practice the mathematical skills and calculator activities in class, as well as to ask and answer questions on the material.

Homework (10%)
At the start of each chapter, I will distribute a Chapter Schedule, which contains the overview of the chapter and a list of homework problems corresponding to each of the sections in the textbook that are covered in class. It is very important to complete all assigned practice problems BEFORE the following class meets. The answers to the odd-numbered problems are in your textbook; I expect you to check the answers to the assigned odd problems, and rework, as necessary. Whenever possible, I will allow some time at the start of the class to address concerns you may have pertaining to the assigned homework; however, you are expected to seek help outside of class on these problems. I recommend that you build time into your schedule to meet with me during office hours, to see a tutor in the CCC Tutoring Center, or to work with a classmate or another individual to go over the homework problems. Homework problems will be checked once per week and will be assigned a score between 0 – 4, according to the Homework Grading Scale (attached).

Homework Quizzes (10%)
Homework quizzes will generally cover a few sections of a chapter and are announced in advance. The quiz problems will be taken directly from the list of assigned homework problems. If you miss a quiz, you have earned a grade of 0% for that quiz. I will drop your TWO lowest quiz scores at the end of the semester. No makeup quizzes will be given.
Test Review Sheets (5%)
For each of the four unit tests, you will create a Test Review Sheet. The review sheet should include important formulas and definitions, as well as examples of main concepts. You should use your class notes, the list of test topics, and the textbook to assist you in creating your Test Review Sheet. As a guideline, review sheets should be at least one page, front and back. Review sheets are due at the start of class on the day of the test.

Unit Tests (60%)
I will give four unit tests in this course. All tests will be announced at least three days in advance.
If you miss a test without valid documentation, you have earned a grade of 0% for that test.

You will need a PENCIL and GRAPHING CALCULATOR for every test.
⇒ There will be a 20% penalty deduction from your test score if it is written in pen.
⇒ You may NOT share a calculator with another student in class during a test.

• Test Makeup Policy
It is your responsibility to be aware of scheduled test dates. If circumstances beyond your control prevent you from coming to class on the day of a test, you must make every effort to notify me BEFORE the time of the test. Makeup tests will be given only for documented emergencies. A note from a doctor or health care facility indicating the dates you were sick/injured and the date you are able return to class will be considered valid documentation.

• Test Corrections
You can earn an additional 5 percentage points on each of the four tests (not to exceed a score of 100% on any given test) by submitting a complete set of test corrections. You have one week from the day I return the tests to the class to complete and submit your test corrections. You will not be eligible to receive extra points for test corrections if you did not submit the corresponding Test Review Sheet.

Final Comprehensive Exam (15%)
I will give a final comprehensive examination during the week of May 11-15. The exact date and time of the exam will be made known in February. I will announce the date in class, and the information will also be available on the college website. Please note that the exam time will likely be different from our normal class meeting time. You will need to plan accordingly. I will be giving you more information about the final exam structure and content towards the end of the semester.

VII. METHOD OF EVALUATION:
Final grades will be based on your performance on the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework Assignments</td>
<td>10%</td>
</tr>
<tr>
<td>Homework Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Test Review Sheets</td>
<td>5%</td>
</tr>
<tr>
<td>Unit Tests (4)</td>
<td>60%</td>
</tr>
<tr>
<td>Final Comprehensive Exam</td>
<td>15%</td>
</tr>
</tbody>
</table>

I will post your scores online using WebGrade. Using a student ID and password that I will give to you, you will be able to access your grade report at any time during the semester.
VIII. GRADING SCALE
Your midterm and final semester grades will be assigned a letter grade according to the following scale.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 - 100%</td>
</tr>
<tr>
<td>A-</td>
<td>90 - 92%</td>
</tr>
<tr>
<td>B+</td>
<td>87 - 89%</td>
</tr>
<tr>
<td>B</td>
<td>83 - 86%</td>
</tr>
<tr>
<td>B-</td>
<td>80 - 82%</td>
</tr>
<tr>
<td>C+</td>
<td>77 - 79%</td>
</tr>
<tr>
<td>C</td>
<td>73 - 76%</td>
</tr>
<tr>
<td>C-</td>
<td>70 - 72%</td>
</tr>
<tr>
<td>D+</td>
<td>67 - 69%</td>
</tr>
<tr>
<td>D</td>
<td>60 - 66%</td>
</tr>
<tr>
<td>F</td>
<td>Below 60%</td>
</tr>
</tbody>
</table>

W  Withdrawal
WY Involuntary Withdrawal

IX. EXTRA HELP
I encourage you to see me for help during office hours or to set up an appointment to meet with me at another time. You may also ask questions via e-mail. There are qualified and very supportive math tutors available to help you, free of charge, five days a week, in the Tutoring Center located on the 4th floor of the main building, room 412. No appointment is necessary, but for more information, you may phone (518) 562-4343 or 562-4251. You can find the tutor schedule on the College website and also outside the Center’s main door on campus. In addition, I strongly encourage you to form your own study groups. Working with a motivated group of your peers can be an invaluable learning experience.

X. ASSISTANCE AND ACCOMMODATIONS
If you have, or suspect you may have, any type of learning disability that may require extra assistance or special accommodations, please speak to me privately after class or during office hours as soon as possible so I can help you obtain any assistance you may need to successfully complete this course. You should also contact Laurie Bethka in room 420M (phone 562-4252) for further assistance.

XI. ACADEMIC HONESTY POLICY
All students are expected to behave with academic honesty. It is not academically honest, for example, to misrepresent another person’s work as one’s own, to take credit for someone else’s words or ideas, to accept help on a test or to obtain advance information on confidential test materials, or to act in a way that might harm another student’s chance for academic success. When an instructor believes that a student has failed to maintain academic honesty, he or she may give the student an F, either for the assignment or for the course, depending on the severity of the offense. In the case of such an offense, the instructor will notify, in writing, the student and the Academic Dean. A student may appeal a decision on the charge of failing to maintain academic honesty according to the procedure prescribed by the Student Code of Conduct in the College catalog.

XII. MISCELLANEOUS
Cell phones must be turned off or turned to silent mode during class.
XIII. GENERAL TOPICS OUTLINE

1. Fundamental Concepts and Operations of Algebra (textbook chapter 1, B.1 – B.2)
   including arithmetic and real number system, order of operations, rules of exponents, scientific notation, significant digits, accuracy, precision, metric system, dimensional analysis, roots and radicals, operations with algebraic expressions, linear equations and formula manipulation, applications of linear equations

2. Functions and Graphs (textbook chapters 3 and 5)
   including functions, rectangular coordinate system, graphs of functions, lines, slope, distance formula, slope-intercept form, parallel and perpendicular lines

3. Systems of Linear Equations (textbook chapter 5)
   including solving systems of linear equations in two variables (graphically, algebraically, determinants), solving systems of linear equations in three variables (algebraically, determinants), applications

4. Factoring and Algebraic Fractions (textbook chapter 6)
   including special products, factoring algebraic functions, other forms of factoring, equivalent fractions, multiplication and divisions of algebraic fractions, complex fractions, equations with fractions

5. Quadratic Equations (textbook chapter 7)
   including solving quadratic equations by factoring, solving quadratic equations by graphing, solving quadratic equations by the quadratic formula, applications

6. Geometry (textbook chapter 2)
   including angles and lines, triangles, quadrilaterals, circles, area and volume of geometric solids

7. Trigonometric Functions (textbook chapter 4)
   including trigonometric ratios (sine, cosine, tangent), values of trig functions, inverse trig functions, solving right triangles, applications of right triangles

8. Inequalities (textbook chapter 17)
   including properties of inequalities, solving linear inequalities, equations and inequalities involving absolute value, non-linear inequalities

9. Ratio, Proportion and Variation (textbook chapter 18)
   including ratio and proportion, direct variation, inverse variation, joint and combined variation