



## **INTERMEDIATE ALGEBRA**

Revised 8/12/11

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<b><u>COURSE NUMBER:</u></b>	MAT 102
<b><u>PREREQUISITE(S):</u></b>	MAT 101 with a grade of “C” or higher or satisfactory placement.
<b><u>CO-REQUISITE(S):</u></b>	None
<b><u>COURSE DESCRIPTIONS</u></b>	This course includes the study of linear systems and applications; quadratic expressions, equations, functions and graphs; and rational and radical expressions and functions.
<b><u>TEXTBOOK(S):</u></b>	Martin-Gay K. Elayn, <i>Beginning and Intermediate Algebra</i> , 4th ed., Upper Saddle River, New Jersey, Prentice-Hall, 2009. Textbook with MyMathlab included: ISBN 0-321585941 MyMathLab stand alone: ISBN 0-32119991X
<b><u>REFERENCE(S):</u></b>	
<b><u>OTHER REQUIRED MATERIALS, TOOLS, AND EQUIPMENT:</u></b>	For most recent requirements go to : <a href="http://pearsonmylabandmastering.com/system-requirements/">http://pearsonmylabandmastering.com/system-requirements/</a>  Computer with Internet access, Internet Explorer 5.0 or higher or other current browser, Java, word processing software (must be able to save Word format), and anti-virus software.
<b><u>METHOD OF INSTRUCTION:</u></b>	This course will be taught via the internet. The concepts will be instructor-led by reading, watching, and/or exploring using an internet-based math tutorial and a textbook.

<b><u>GRADING SYSTEM:</u></b>	90	-	100	=	A
	80	-	89	=	B
	70	-	79	=	C
	60	-	69	=	D
	Below	-	60	=	F

**GRADE  
CALCULATION  
METHOD:**

See instructor's handout.

**CONFIDENTIALITY:**

All students' e-mail addresses may be available to other students in the class. Although some assignments in an online course may encourage or require peer communication, the instructor will make every effort to protect the confidentiality of any personal communication (for example, grades). However, you should recognize that e-mail and other electronic media are not secure; there is no guarantee of the privacy of your e-mail or other personal information.

**APPROPRIATE  
ONLINE BEHAVIOR:**

The use of Spartanburg Community College's website, e-mail service or course management software for creation and/or distribution of material not pertaining to course participation is prohibited and is grounds for dismissal according to College policy under "disruptive behavior." Such actions, include, but are not limited to:

- Inappropriate use of email and discussion boards for:
  - ✓ Harassment
  - ✓ Unlawful solicitation
  - ✓ "Spamming"
  - ✓ "Flaming"
- Use of online editing tools within the course management software to:
  - ✓ Create offensive material
  - ✓ Link to inappropriate materials

**ATTENDANCE  
POLICY:**

**Requirement: All students must register in MyMathLab during the first week of scheduled classes.** At the end

of the first week, the instructor will drop any student from the course who has not registered in MyMathLab.

Instructors maintain attendance records. However, it is the student's responsibility to withdraw from a course. A student who stops attending the online class and fails to initiate a withdrawal will remain on the class roster. *With this in mind, for every assignment, test or exam not completed while still enrolled in the course the student will receive a grade of zero and the final course grade will be calculated accordingly.*

Withdrawal Policy: During the first 75% of the course, a student may initiate withdrawal and receive a grade of W. A student cannot initiate a withdrawal during the last 25% of the course. Extenuating circumstances require documentation and approval by the appropriate department head and academic dean.

**ACADEMIC  
CONDUCT:**

ACADEMIC DISHONESTY: Students are expected to uphold the integrity of the College's standard of conduct, specifically in regards to academic honesty. All forms of academic dishonesty including, but not limited to, cheating on assignments/tests, plagiarism, collusion, and falsification of information will call for disciplinary action. Disciplinary action imposed may include one or more of the following: written reprimand, loss of credit for assignment/test, termination from course, and probation, suspension, or expulsion from the College. For further explanation of this and other conduct codes, please refer to the Student Handbook.

**TESTING:**

**Tests will be taken online in approved Testing Centers with proctors. The instructor may allow, at most, one test to be taken online unproctored.** For SCC students, tests will be taken online and will be administered in the **Testing Center located in E-3 of the East Building on the SCC campus.** If the SCC campus is not convenient, the student may contact the instructor for an alternate testing site. For Tech Online students, the test will be administered in the testing center at your host college. Refer to the class outline for test availability. If any test is not taken during the specified time frame, a zero will be awarded for the test grade. Everyone must take a comprehensive final exam.

**East Building Room 3 Testing Center: PHOTO ID**

## **REQUIRED!**

Go to <http://www.sccsc.edu/resources/testing> for hours of operation.

## **ACCOMMODATIONS:**

Students who need special accommodations in this class because of a documented disability should notify Student Disability Services. You may contact Student Disability Services by calling, (864) 592-4811, toll-free 1-800-922-3679; via email through the Spartanburg Community College web site at <http://www.sccsc.edu/resources/disabilities> ; or by visiting the office located in the Dan Lee Terhune Student Services Building, room 112 of the Spartanburg Community College campus. By contacting Student Disability Services early in the semester, students with disabilities give the College an opportunity to provide necessary support services and appropriate accommodations.

**COURSE OUTCOMES  
& OBJECTIVES:**

Upon satisfactory completion of this course, the students should be able to demonstrate competency in the General Education Outcome listed as “their ability to express themselves effectively in quantitative and qualitative terms” in the following competencies and objectives:

- I. Solve linear systems of equations in two variables**
  1. Solve systems of two linear equations using elimination, substitution, and graphing
  2. Solve application problems involving linear systems.
- II. Identify and solve functions**
  1. Define a function
  2. Identify and evaluate a function
  3. Determine domain and range of functions.
- III. Solve quadratic functions**
  1. Solve quadratic equations by factoring, completing square, and the quadratic formula.
  2. Graph quadratic functions.
  3. Identify the vertex of a quadratic function.
  4. Determine the domain and range of quadratic functions.
  5. Recognize a quadratic function from a graph and/or an equation.
  6. Solve application problems involving quadratic functions.
- IV. Solve and perform basic operations with rational expression and functions**
  1. Simplify and perform operations with rational expressions.
  2. Determine the domain of rational functions.
  3. Solve rational equations.
  4. Solve application problems involving rational expressions (e.g. ratio and proportion, direct/indirect variation).
- V. Apply properties of radical expressions and functions**
  1. Identify characteristics of a radical.
  2. Determine domain of radical functions.
  3. Simplify and perform operations with radical expressions.
  4. Perform operations with complex numbers.
  5. Write radical expressions with and without rational exponents.

## Syllabus Addendum

### Factoring Refresher

- A. Factoring Strategies: Integrated Review
- B. Solving Quadratic Equations by Factoring

**5 Hours**  
pg. 402-405  
6.6

### Rational Expressions

- A. Rational Functions and Simplifying Rational Expressions
- B. Multiplying & Dividing Rational Expressions
- C. Adding & Subtracting Rational Expressions with Common Denominators and LCD
- D. Adding & Subtracting Rational Expressions with Unlike Denominators
- E. Solving Equations Containing Rational Expressions
- F. Proportion and Problem Solving w/ Rational Expressions

**13 hours**  
7.1  
7.2  
7.3  
7.4  
7.5  
7.6

### Solving Systems of Linear Equations

- A. Solving Systems of Linear Equations by Graphing
- B. Solving Systems of Linear Equations by Substitution
- C. Solving Systems of Linear Equations by Addition
- D. Systems of Linear Equations & Problem Solving

**10 hours**  
4.1  
4.2  
4.3  
4.5

### Radicals, Rational Exponents, and Complex Numbers

- A. Radicals & Radical Functions
- B. Rational Exponents
- C. Simplifying Radical Expressions (omit distance and midpoint)
- D. Define, Add, Subtract, and Multiply Complex Numbers (omit division and  $i$  raised to powers)

**8 hours**  
10.1  
10.2  
10.3  
10.7

### Quadratic Equations and Functions

- A. Graphing and Writing Linear Functions
- B. Graphing Nonlinear Functions (optional)
- C. Solving Quadratic Equations by Completing the Square
- D. Solving Quadratic Equations by the Quadratic Formula
- E. Quadratic Functions & Their Graphs
- F. Further Graphing of Quadratic Functions

**9 hours**  
8.1  
8.2  
11.1  
11.2  
11.5  
11.6