

**Course Outline:** MAT 070 – Introductory Algebra

**Date Written:** August 2006      **By:** Mary Bradley

**Description:**

This course establishes a foundation in algebraic concepts and problem solving. Topics include signed numbers, exponents, order of operations, simplifying expressions, solving linear equations and inequalities, graphing, formulas, polynomials, factoring, and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology.

**OBJECTIVES:**

In this course students should develop the ability to:

- Learn, read, write, listen, and speak mathematically
- Estimate reliably, formulate and answer, and judge the reasonableness of the results
- Use appropriate technology
- Work collaboratively

**Course Hours:**

**Class:** 3      **Lab:** 2      **Credit:** 4

**Prerequisites:**

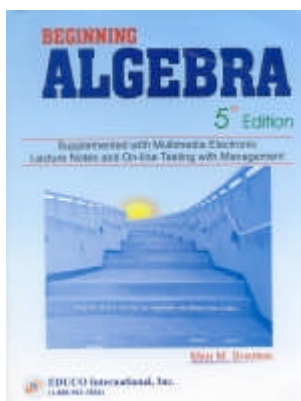
*MAT 060 or satisfactory test score.*

**Corequisites:**

*RED 090, ENG 095, or satisfactory reading test scores.*

**Text(s) Required:**

## Beginning Algebra



**Man M. Sharma**

**ISBN : 1-888469-54-4**

**Table of Contents**

- Chapter 1 : Review of Pre-Algebra**
- Chapter 2 : Linear Equations/Inequalities in One Variable**
- Chapter 3 : Linear Equations/Inequalities in Two Variables**
- Chapter 4 : Systems of Linear Equations and Inequalities**
- Chapter 5 : Exponents and Polynomials**
- Chapter 6 : Factoring Quadratic Equations and Inequalities**
- Chapter 7 : Rational Expressions**
- Chapter 8 : Roots and Radicals**
- Chapter 9 : Quadratic Equations**

## Appendices

### COURSE COMPETENCIES:

The student should be able to model and solve application problems while learning to:

1. Add, subtract, multiply, and divide real numbers
2. Apply the laws of exponents
3. Simplify and evaluate expressions
4. Translate from verbal into numeric, symbolic and graphic forms
5. Solve linear equations and inequalities (numerically, analytically and graphically)
6. Graph equations in one and two variables
7. Evaluate and solve literal equations
8. Perform basic operations with polynomials
9. Factor by the greatest common factor
10. Factor  $ax$  (square) divided by  $bx$  divided by  $c$  with  $a = 1$
11. Define and describe the relationships among lines, angles, and geometric figures

If you have a **DOCUMENTED** disability and think you will need some form of reasonable classroom accommodations to help you achieve your full academic potential, please see the disability office, **Student Support Services**, located on the lower level of Oaks Hall. If you will not be needing classroom modifications, you are not required to disclose your disability.

### Materials needed:

Scientific calculator with 2-line display, similar to TI-30X IIS, or a graphing calculator; and a 3-ring binder with loose leaf paper and dividers for working homework problems, taking notes, filing handouts, etc. An open mind, a willing attitude and a positive outlook are always helpful.

**If you plan to take additional curriculum math classes, it is strongly recommended that you purchase a TI-83 plus, or TI-84 graphing calculator.**

**Office:** Oaks Hall 101-C

**Office hours:** M-F 1:00 – 2:00

**Phone:** SCC: 586-4091 Ext. 335    **Home:** 497-7584

**e-mail:** [mbradley@southwesterncc.edu](mailto:mbradley@southwesterncc.edu)

### ATTENDANCE:

Class attendance is vitally important to your success in mathematics. Good attendance is generally rewarded by higher exam scores and course grades. Attendance is taken in each class.

You must not miss more than 6 of your class meetings, or a resulting grade of CS will be recorded with the registrar, unless arrangements are made with the instructor.

### **HOMEWORK:**

Homework is an essential tool in helping you learn mathematics. Your test grades will directly reflect your homework habits. The homework for each chapter accounts for 10% of your overall grade. Homework should be orderly and legible, and you must attempt and check all assignments and make a second attempt at problems that are incorrect. Any questions that you have on homework will be discussed in class. Much of the homework will be submitted online for grading, but your actual work on paper should be organized and kept in a notebook, which will be graded at the end of each chapter.

### **TESTING:**

There will be 6 chapter tests, and a cumulative final exam. The final exam will be given on the last day of class. A final exam score of 70, and a final average of 77 or better is required to pass the course. If a student is absent for a test, for a **LEGITIMATE** reason, that student may take a make-up exam, but the student must call the instructor **BEFORE** the scheduled exam time and state the reason for the absence.

### **GRADING:**

Chapter Tests (6)	50%	<b>Grading scale:</b>	93 - 100	A
Homework	10%		85 - 92	B
Labs, Notebook	10%		77 - 84	C
Quizzes	10%		Below 77	CS
Final Exam	20%			

### **Orientation and Registration schedule:**

Class will meet on Friday, August 25, 2006, for General Orientation and Web registration in the computer lab located in Oaks, room 106. Every student must come with the textbook mentioned above, otherwise registration will not be possible. This class session is a must to continue in this class. This session will get you started in the online portion of this class.

Any student who is not able to attend this session must make an appointment and come to my office to get started with assignments.

### **General Course Format:**

- We will cover 6 chapters, broken into 37 topics or sections, as outlined in the book.
- After each class you will be assigned four components of an assignment:  
1) Tutorial; 2) Homework; 3) Free-Response Quiz; and 4) Multiple Choice quiz; all based on the discussion in class.
- All assignments must be completed by the due dates. After the due dates, components will become inactive, and if not completed, will be recorded as zeros.
- Free response quizzes can be taken any number of times and the best score will be recorded. Each time the quiz is taken, the questions will be similar, but different questions. Only one attempt will be allowed on multiple choice quizzes.
- I will be in touch with you through e-mails on a daily basis. You must make it a habit to check your e-mail daily. Your assignments will be e-mailed to you after each class.
- I will be observing your progress daily, and will be sending you notes of encouragement and appreciation for good work, or my concerns and advice for becoming more successful.
- The final for the course will be a departmental examination.

### **Support:**

I encourage you to seek help whenever you have a problem understanding the concepts. You may e-mail me: [mbradley@southwesterncc.edu](mailto:mbradley@southwesterncc.edu) anytime if you need my personal attention. The computers in the LAC will be available from 8:00 am – 8:00 pm Monday through Thursday, and from 8:00 am until 5:00 pm on Fridays. Computers are also available in the library, and several classroom computers are available at various times of the day, located in the Oaks Hall. Educo has funded and supports the lab in Oaks 107, and those computers may be used at any time of the day when classes are not being held in that classroom. Do not hesitate to contact me if I can help in any way. I look forward to our opportunity to work together this semester.

Please remember that there is one thing that always works in learning mathematics:

**Complete your assigned work on time!**