SOUTHERN UNIVERSITY
DEPARTMENT OF MATHEMATICS

MATH 092
DEVELOPMENTAL MATHEMATICS

COURSE DESCRIPTION: Algebra course designed especially for students who had little or no algebra in high school. Provides an extensive review as a prerequisite for college algebra. Topics include operations on real numbers, variable expressions, linear equations and equalities, polynomials, fractions, algebraic fraction, and sets. Students placed according to ACT/SAT scores.

INSTRUCTOR'S EMPHASIS: The instructor will emphasize problem solving, critical thinking and communication. Also emphasis will be placed on the understanding ideas and concepts. This course will provide students with the essentials concepts and skills which are needed to successful complete precalculus.

INTENDED AUDIENCE:
The purpose of this course is to provide students with the basic algebra skills which are needed for further study in mathematics.

CREDIT HOURS: 3.0 Hours

PREREQUISITE:
Students are placed in math 092 whenever their scores on the ACT or SAT indicate the need for a thorough review in algebra**.**

TEXTBOOK: Aufmann, Richard, ed. al. (2004). Beginning Algebra with Applications. Houghton Mifflin Company, Boston, 7th Ed

GENERAL GOALS:

1. To use logical thinking and computational skills to master course content.

2. To acquaint students a variety of mathematics topics and their applications.

3. To provide the skills to transfer the language of algebra to every day language.

4. To introduce algebra concepts and skills that are required for further study in mathematics.

LEARNING OUTCOMES: Upon exiting this course:

1. Students will be able to demonstrate the ability to solve h real numbers, polynomials, algebraic fractions, and radical expressions by using binary operations.

2. Students will be able to demonstrate the ability to graph, find the slope, and write an equation of the line by using the rectangle coordinate systems and basic equations.

3. Students will be able to demonstrate the ability to solve polynomials and quadratic equation by factoring.

4. Students will be able to solve linear equations and linear inequalities by applying the appropriate sequence of steps.

5. Students will be able to demonstrate the understanding of algebraic expressions by translating verbal expressions to variable expression.

ASSESSMENT MEASURES:

1. Departmental comprehensive exam

2. Instructor created exams, quizzes and homework

COURSE CONTENT:

CHAPTER I: Real Numbers Review

CHAPTER II: Variable Expressions
2.1 Evaluating Variable Expressions
2.2 Simplifying Variable Expressions
2.3 Translating Verbal Expressions into Variable Expressions

CHAPTER III: Solving Equations and Inequalities
3.1 Introduction to Equations
3.2 General Equations
3.3 Inequalities

CHAPTER V: Linear Equations and Inequalities
5.1 The Rectangular Coordinate System
5.2 Graphs of Straight Lines
5.3 Slopes of Straight Lines
5.4 Equations of Straight Lines

CHAPTER VII: Polynomials
7.1 Addition and Subtraction of Polynomials
7.2 Multiplication of Monomials
7.3 Multiplication of Polynomials
7.4 Integer Exponents and Scientific Notation
7.5 Division of Polynomials

CHAPTER VIII: Factoring
8.1 Common Factors
8.2 Factoring Polynomials of the form $x^2 + bx + c$
8.3 Factoring Polynomials of the form $ax^2 + bx + c$
8.4 Special Factoring
8.5 Solving Equations

CHAPTER X: Radical Expressions
10.1 Introduction to Radical Expressions
10.2 Addition and Subtraction of Radical Expressions

SUPPLEMENTARY REFERENCES:

Angel, A. (1996). Elementary Algebra for College Students. Prentice Hall, New Jersey, 4th Ed.

Bello & Britton (1997). Topics in Contemporary Mathematics. Houghton Mifflin Co., Boston, 6th Ed.

Bittinger, Ellenbogen, & Johnson (1998). Elementary and Intermediate Algebra. Addison Wesley Longman, Inc., 2nd. Ed.

COURSE EXPECTATION AND STUDENTS SUPPLEMENTS:

1. EXPECTATIONS
   Students are encouraged to use the computers in the Math Lab or other resources for review and skills enhancement.

2. THE MATHEMATICS LABORATORY (MATH LAB)
   The MATH LAB is located in room 318 T. T. Allain Hall. Each class will be scheduled at the beginning of the semester for orientation. The laboratory will open for general us at designated times. The lab's hours will be announced to each class and posted.

   Laboratory resources that are designed to help the student to achieve the objectives of the course included:

   a) individual tutoring;
   b) computerized practice and tutoring.

3. OTHER RESOURCES:

   Personal tutoring is available free of charge at the Center for Student Success in 107 Stewart Hall. Contact Dr. Jaquator Hamer Lawrence at (225) - 771 - 4312 for details.

4. CLASS ATTENDANCE
   All students enrolled in Math 092 are expected to attend classes regularly and punctually. Excessive absences and tardiness will be noted. The student is responsible for keeping up with course work, whether or not an absence is excused.

5. EXITING MATH 092

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The Proficiency Test is the last test given in this course. It is only administered to those students with an average of 70% or higher. A passing score on this test is at least 70%. This score will not be averaged into student's grade. Students, who fail to pass the proficiency test upon the second attempt, will receive a grade of "D" regardless of course average and must repeat the course.

6. ACADEMIC DISHONESTY: Adhere to honesty and integrity in work submitted for credit in this course and adheres to SUBR's Code of Conduct. (Refer to current Catalog.)

7. LIVETEXT subscription is required.

Southern University and A&M College-Baton Rouge has entered into partnership with LiveText, Inc. to provide online academic resources for student collaboration and learning outcomes assessment. Therefore, all students enrolled in this course are <u>required</u> to purchase a subscription from LiveText, Inc. through the Southern University Bookstore. LiveText, Inc. provides students with the electronic tools and services needed to serve them in their courses and in their career or academic pursuits beyond graduation.

LiveText is a dynamic tool that will enable you to:

- Create Electronic Portfolios for storing and displaying coursework for use anytime and anyplace;
- Share your résumés, professional portfolios and virtually any projects that can be photographed, video recorded, and uploaded to prospective employers and others who need or want to know about your accomplishments;
- Engage in discussion boards with other students, exchange feedback, and create study groups and other types of social networks.
- Complete assignments in key/required courses where LiveText has been embedded (without LiveText, you will not be able to complete these assignments).
- Create a complete record of your academic career that is malleable and easily accessible.
- Engage in developing a results driven culture of assessment at Southern University.
- Participate in a process that will allow for data-driven curricular improvements that foster improved student learning and performance.

<u>DISABILITY STATEMENT:</u>

Students that are considered as having a disability are to provide the professor with a letter from the Department of Special Education stating the appropriate accommodations required

of this course. If you have a documented disability, then please discuss it with personnel at 771-3950 in Room 125 of Blanks Hall.

SUGGESTED OR REQUIRED READING: See professor.

GRADING POLICY: See professor.