

# MTH-030 PRE-ALGEBRA COURSE SYLLABUS

James A. Rhodes State College  
Division of Arts and Science

5 Credit Hours  
5 Contact Hours

## ADA Accommodations

The Learning Center provides free education assistance to any Rhodes State College student who is enrolled for credit. Students are responsible for informing the instructor of any instructional accommodations and/or special learning needs by the end of the first week of the quarter. Assistance is available to eligible students through the Learning Center, Science Building Room 151, or call (419) 995.8039 [adopted from a statement provided by the Learning Assistance Program].

## Mathematics Mission Statement

The mission of the Rhodes State College mathematics department is to provide mathematical foundations for underprepared students and the mathematics courses needed for the different technologies at Rhodes State College. The courses furnish students with mathematical concepts pertinent to our programs of study and allow flexibility in career and educational choices.

Dean of Arts & Sciences Division: Will Wells  
Chair of Mathematics Department: Mary Ann Hovis

## **I. OVERVIEW**

This course provides a comprehensive review of basic arithmetic skills and their applications as well as an introduction to algebra. It is intended to prepare students for further studies in algebra and/or business mathematics.

**Prerequisites:** NONE

**Lecture and Class:** 5 hours of lecture and 0 lab hours per week.

## **II. TEXT AND MATERIALS/SUPPLIES**

Martin-Gay. Prealgebra, Fourth Edition, published by Prentice Hall, 2004.

OPTIONAL: Martin-Gay. Prealgebra CD Lecture Series, Fourth Edition, published by Prentice Hall.

CALCULATORS: a (scientific) calculator is required. Your instructor will discuss which “type” depending on your major.

### **III. COURSE OBJECTIVES**

#### **A. General**

1. Whole Numbers and Introduction to Algebra
2. Integers
3. Solving Equations and Problem Solving
4. Fractions
5. Decimals
6. Ratio and Proportion
7. Percent
8. Measurement

#### **B. Specific - The student should be able to.**

1. Add, subtract, multiply, divide, and raise to a power whole numbers, integers, fractions, and decimals.
2. Evaluate arithmetic expressions using the order of operation rules for whole numbers, integers, fractions, and decimals.
3. Replace a variable with whole numbers, integers, fractions, and decimals and then evaluate the expression.
4. Convert between decimals and fractions.
5. Evaluate square roots.
6. Simplify algebraic expressions.
7. Use the distributive property.
8. Solve linear equations in one variable containing integers, fractions, and decimals.
9. Translate selected application problems into linear equation in one variable and solve.
10. Set up ratios and rates.
11. Convert to unit rates.
12. Set up a proportion and solve for the unknown.
13. Convert between percent representation of a number and decimals.
14. Solve percent problems using equations.
15. Convert from one unit of length to another both in the English and metric system.
16. Convert units weights and measures, capacity and temperatures in both the English and metric system.

### **IV. SCHEDULE OF INSTRUCTION TOPICS**

#### **A. Whole Numbers and Introduction to Algebra**

1. Place Value and Names for Numbers
2. Adding Whole Numbers and Perimeter
3. Subtracting Whole Numbers
4. Rounding and Estimating

5. Multiplying Whole Numbers and Area
6. Dividing Whole Numbers
7. Exponents and Order of Operations
8. Introduction to Variables and Algebraic Expressions

**B. Integers**

1. Introduction to Integers
2. Adding Integers
3. Subtracting Integers
4. Multiplying and Dividing Integers
5. Order of Operations

**C. Solving Equations and Problem Solving**

1. Simplifying Algebraic Expressions
2. Solving Equations: The Addition Property
3. Solving Equations: The Multiplication Property
4. Solving Linear Equations in One Variable
5. Linear Equations in One Variable and Problem Solving

**D. Fractions**

1. Introduction to Fractions and Equivalent Fractions
2. Factors and Simplest Form
3. Multiplying and Dividing Fractions
4. Adding and Subtracting Like Fractions and Least Common Denominator
5. Adding and Subtracting Unlike Fractions
6. Complex Fractions and Review of Order of Operations
7. Solving Equations Containing Fractions
8. Operations on Mixed Numbers

**E. Decimals**

1. Introduction to Decimals
2. Adding and Subtracting Decimals
3. Multiplying Decimals and Circumference of a Circle
4. Dividing Decimals
5. Estimating & Order of Operations
6. Fractions and Decimals
7. Equations Containing Decimals
8. Square Roots and the Pythagorean Theorem

**F. Ratio and Proportion**

1. Ratios
2. Rates
3. Proportions
4. Proportions and Problem Solving

**G. Percents**

1. Percents, Decimals, and Fractions
2. Solving Percent Problems with Equations
3. Applications of Percent (Section A)

**H. Measurement**

1. Linear Measurement
2. Weight and Mass
3. Capacity
4. Conversions between U.S. and Metric
5. Temperature

**V. SCHEDULE OF ACTIVITIES**

Chapters 1-7 and Chapter 9 will be covered from the text with a few sections omitted.

**COURSE OUTLINE**

<b><u>CHAPTER NO.</u></b>	<b><u>WEEK NO.</u></b>	<b><u>TOPIC</u></b>
1	1 & 2	Whole Numbers and Intro. to Algebra
2	2 & 3	Integers
3	4	Solving Equations and Problem Solving
4	5 & 6	Fractions
5	7 & 8	Decimals
6	8	Ratios and Proportion
7	8 & 9	Percents
9	9 & 10	Measurement

**A calculator will not be allowed for part of or all of Exam I.**

Note: The time frame set out above is approximate.

**VI. LABORATORIES, CLINICALS**

There will not be any lab assignments for this course.

**VII. SPECIAL OR ADDITIONAL COURSE REQUIREMENTS**

No children, cell phones, or pagers in the class without prior permission of the instructor.

## VIII. ATTENDANCE

**Given the volume of material covered in the class, students are:**

1. expected to be in class the entire time the class is in session.
2. responsible for everything presented or covered in class.

**Attendance** is an important part of the grade you receive for this course. Regular attendance is needed to gain an understanding of the course's content and to satisfactorily demonstrate required competencies. Lack of attendance will negatively impact the earned grade and if flagrant, could result in a grade of "E".

**Student Conduct:** Students are responsible for helping to maintain the decorum of the classroom. Therefore the following behaviors are deemed unacceptable: habitual attendance/punctuality problems; disruptive behavior (to include eating or sleeping during class, holding private conversations during class, performing antics during class, deriding or embarrassing other students and/or racist or sexist comments or behaviors); or any other activity which tends to compromise the academic integrity and subvert the process of education. As outlined in the Rhodes State Student Code of Conduct, students in violation of these guidelines may be removed from the class or exposed to other disciplinary measures.

*Information about Withdrawals:*

- ✓1. Before 5:00 p.m. of the 4<sup>th</sup> Friday of a quarter, a student may withdraw for a course and no mark will be entered on their official permanent record.
- ✓2. Between 5:00 p.m. of the 4<sup>th</sup> Friday and 5:00 p.m. of the 7<sup>th</sup> Friday of a quarter, a student may withdraw from a course and their official permanent record shall bear the notation of "W".
- ✓3. After the 7<sup>th</sup> Friday documented and extenuating circumstances will be required to withdraw from a course.

✓**PROPER PAPERWORK** must be done by the student. Please see catalog for more details.

## IX. TESTING AND EVALUATION PROCEDURES

Please note the following policy on missing an exam or quiz:

If a student is absent on an exam or a quiz day, a score of zero will be recorded unless other arrangements are made with the instructor.

Class specific information is provided on an additional sheet.

## X. COURSE BIBLIOGRAPHY AND STUDENT REFERENCE

\* Martin-Gay. Prealgebra, Fourth Edition, published by Prentice Hall, 2004.

OPTIONAL: Martin-Gay. Prealgebra CD Lecture Series, Third Edition, published by Prentice Hall, 2001.

Students may obtain free tutorial assistance Skills Lab, SCI 240.

Math Pro 5 – on desktop in Skills Center & Rooms

Videos are available in the Skills Center

\*Textbook

## XI. PLAGIARISM AND ACADEMIC HONESTY

**Plagiarism** is the use of someone else's writing and/or work without giving proper credit--or perhaps without giving any credit at all to the writer of the original material. Whether plagiarism is intentional or unintentional, it represents a serious academic offense that can be easily avoided by adhering closely to the following advice. A student must document his/her source of information whenever she/he:

1. uses a direct quotation.
2. copies a table, chart, or diagram.
3. constructs a table from data provided by others.
4. paraphrases a passage in his/her own words.
5. presents specific examples, figures, or factual, or factual information take from a specific source and used to explain or support his/her judgments (James M. McCrimmon, Writing With A Purpose, p. 499)

*In addition to this definition, the Instructional Division of Rhodes State College, considers plagiarism to include: (1) submitting the work of another student, (2) copying from another student, or (3) using unauthorized notes or crib sheets to complete assigned work. [adopted from a statement used by the Human Services program at Rhodes State College.]*

**Academic Honesty.** All class members are assumed to be honest. Attempting to deceive, defraud, or use dishonesty for one's own gain cannot be tolerated in any form. Cheating during any class activity is unethical and compromises the integrity of the college and subverts the process of education (note: individual programs may impose greater penalties). Cheating may result in a grade of "0" for the activity. Instructors may report questionable behavior to the office of the Vice President for Academic Affairs who will bring the incident to the attention of the Academic Misconduct Committee. Students are encouraged to review the Code of Student Conduct in the college's catalog for specific details and examples of academic dishonesty.

**Submitting Substantially The Same Work.** Submitting substantially the same work to satisfy requirements for one course that has been previously submitted and satisfied the requirements for another course, without permission of the instructor for which the work is being submitted and without including the original work for comparison is not permitted. See Section 10.5, paragraph 5 of the code of Student Conduct.

This syllabus can be changed at the discretion of the instructor and/or chair of the program.