

VIRGINIA HIGHLANDS COMMUNITY COLLEGE

Course of Study

COURSE NUMBER AND TITLE

MTH 03 - Algebra I

COURSE DESCRIPTION

Covers the topics of Algebra I including, real numbers, equations and inequalities, exponents, polynomials, Cartesian coordinate system, rational expressions, and applications. Develops the mathematical proficiency necessary for selected curriculum entrance. Credits not applicable toward graduation. Prerequisites: a placement recommendation for MTH 03 and Arithmetic or equivalent. Variable hours per week.

COURSE OVERVIEW

This will be a computer-mediated course. This means students will receive their primary instruction from a computer program. However, students are encouraged to seek help from their instructor with any course material with which they have difficulty. The instructor may be contacted during office hours, by telephone, or by email. Email through the ALEKS program offers the best means of communicating with the instructor from a distance. The instructor is happy to schedule appointments outside of office hours as necessary.

Students are required to meet the minimum weekly number of hours working on ALEKS that is stated in the Course Requirements document. Failure to meet this requirement may result in the student being withdrawn from the class. The ALEKS program records the number of hours each student spends working, the number of logged-on, and the number of objectives completed.

After students complete all of the objectives in the 3 Intermediate Goals in ALEKS, they will take a comprehensive Final Exam consisting of approximately 50 problems. The problems on this exam will be multiple-choice and will be based upon the Course Objectives described in this syllabus. In order to successfully complete the course, the student must score at least 60% on this Final Exam.

BROAD GOALS OF COURSE

In Basic Algebra I the student will learn the concepts of elementary algebra necessary for

- 1) Basic Algebra II
- 2) A prerequisite requirement for a given curriculum

TOPICS TO BE COVERED

1. Fundamentals (The Real Number System and Algebraic Expressions)
2. Linear Equations and Inequalities
3. Properties of Lines
4. Exponents and Rational Expressions
5. Polynomials

SPECIFIC OBJECTIVES

1. Identify and represent real numbers on a number line
2. Add, subtract, multiply, and divide Real numbers (**Basic Math 5.1-5.12**)
3. Simplify Real number expressions involving exponents and square roots by using order of operations, mental mathematics, and appropriate tools (**Basic Math 6.1-6.11**)
4. Recognize (1.1 & 1.2) and use properties of the Real numbers (See also 1.8 & 1.9)
5. Simplify algebraic expressions by combining like terms (6.1 & 6.2)
6. Evaluate algebraic expressions for given replacement values of the variable(1.3 & 1.4).
7. Solve linear equations in one variable (2.1-2.13)
8. Solve linear inequalities in one variable (2.16-2.21)
9. Graph a linear equation in two variables (3.1-3.10)
10. Graph a linear inequality in two variables (3.19, 3.20)
11. Find x-intercepts of functions (3.12)
12. Find y-intercept of functions (3.11)
13. Find the slope of a line (3.15)
14. Find the equation of a line (3.13-3.16)
15. Use algebraic methods (above) to represent and evaluate verbal quantitative situations (1.5, 1.6, 2.14, 2.15, 2.22, 2.27, 2.28, 2.29, 2.30)
16. Rules of exponents (5.4-5.8)
17. Simplify complex fractions (5.11)
18. Operations with Polynomials (6.1-6.6, 6.9, 6.10)
19. Factoring (6.11-6.15)

COURSE MATERIALS

TEXT:

There is no required textbook for this course. Students must purchase a semester license to the web-based software ALEKS. The ISBN for this ALEKS Manual with one semester license code is 0072391308. **DO NOT** purchase a **USED** copy. The code only works one time for one user for one semester.

WARNING: If you do not pass the course and do not meet the course time requirement, you will need to purchase a NEW license to repeat the course.

CALCULATOR:

No specific calculator is required for this course. Students are encouraged to rely as little as possible on calculators in order to strengthen their math skills.

EVALUATION

To obtain a grade of "S" (Satisfactory) in the course, a student must accomplish **both** of the following:

1. Complete all of the ALEKS objectives in the 3 Intermediate Goals.
2. Earn a score of at least 60% on the Final Exam.

To obtain a grade of "R" (Re-enroll) in the course, a student must accomplish ONE of the following:

1. Meet the semester time requirement but not finish all of the ALEKS Intermediate Goals.
2. Finish the ALEKS portion of the course but fail to make the required 60% on the final exam.

A grade of "U" (Unsatisfactory) will be given to students who do not meet the time requirement and who do not finish all of the ALEKS Intermediate Goal objectives.

ACADEMIC DISHONESTY

Any student caught cheating (including not doing his/her own work on ALEKS) will fail the course, not be permitted to re-enroll in any other distance education course taught by Dr. Fleming, and will have charges brought before the Student Judiciary Committee for possible further action.

EMERGENCY POLICY

In the event of a College-wide emergency, course requirements, classes, deadlines, and grading schemes are subject to changes that may include alternative delivery methods, alternative methods of interaction with the instructor, class materials, and/or classmates, a revised attendance policy, and a revised semester calendar and/or grading scheme.

In the case of a College-wide emergency, please refer to the following about changes in this course:

- Course web page (Blackboard)
- Instructor's email (sfleming@vhcc.edu)
- Instructor's chosen emergency telephone number(s) (276-739-2513)

For more general information about the emergency situation, please refer to:

- Web site - www.vhcc.edu

- Telephone Number - 276-739-2400
- Emergency Text Messaging or Phone System- Virginia Highlands Community College uses VHCC Alert to immediately contact you during a major crisis or emergency. VHCC Alert delivers important emergency alerts, notifications and updates to you on your E-mail account (work, home, other), cell phone, pager or smartphone/PDA (BlackBerry, Treo & other handhelds). VHCC Alert is a free service offered by VHCC. Your wireless carrier may charge you a fee to receive messages on your wireless device. VHCC will test the alert system each semester. Register online at alert.vhcc.edu or by sending a **text message** to **411911** keyword: **VHCC**

In the event of an emergency just regarding this class, the instructor will post announcements on Blackboard and e-mail notification of the postings to students.

The instructor reserves the right to change this syllabus.