

NEW RIVER COMMUNITY COLLEGE

DUBLIN, VIRGINIA

COURSE PLAN

Course Number and Title: MTH 09 - Pre-Algebra (5 credits)

Prepared by: Katrina Doolittle
(Instructor)

Spring, 2008
(Date)

Approved by: _____
(Interim Dean)

Spring, 2008
(Date)

I. Course Description

Provides a transition between arithmetic and algebra. Includes a review of arithmetic, order of operations, rational numbers, simple equations and applications. Credits not applicable toward graduation. Lecture 5 hours per week.

II. Introduction

This is a prealgebra course. It is intended to help students make the transition from basic arithmetic to algebra. The course will include a review of basic arithmetic topics while introducing beginning algebra topics.

Students will be encouraged to enroll in the class depending upon their score on placement tests. Students enrolled in MTH 03 - Basic Algebra, who are not doing well may transfer to this course with the instructor's permission during the first five weeks of the semester.

III. Specific Objectives

The student will be able to

1. read and write whole numbers and identify the place value of digits.
2. add, subtract, multiply, and divide whole numbers.
3. estimate answers for problems involving whole numbers.
4. round whole numbers to specific accuracy.
5. write exponential expressions in expanded notation.
6. evaluate expressions containing exponents.
7. evaluate whole number expressions using the order of operations.
8. evaluate variable expressions given whole number replacement values.
9. translate word phrases into variable expressions.
10. use order relationships ($<$ or $>$) to compare signed numbers.
11. find the absolute value and the opposite of integers.
12. add, subtract, multiply and divide integers.
13. evaluate variable expressions given integer replacement values.
14. simplify integer expressions using the order of operations.
15. combine like terms.
16. use the distributive property to simplify expressions.
17. determine whether a given number is a solution of an equation.

18. use the addition property of equality and the division property of equality to solve linear equations in one variable.
19. solve application problems using equations.
20. work geometry problems using perimeter and circumference.
21. write equivalent fractions and reduce fractions to lowest terms.
22. add, subtract, multiply, and divide fractions.
23. solve equations and applications of equations involving fractions.
24. evaluate variable expressions given fraction replacement values.
25. write a mixed number as an improper fraction and an improper fraction as a mixed number.
26. add, subtract, multiply and divide mixed numbers.
27. use a scientific calculator accurately and efficiently.
28. read and write decimal numbers using place value and expanded notation.
29. use the order relationships ($<$ or $>$) to compare decimal numbers.
30. round decimal numbers to a given place value.
31. add, subtract, multiply and divide decimal numbers, rounding when necessary.
32. evaluate variable expressions given decimal replacement values.
33. evaluate decimal expressions using the order of operations.
34. write fractions as decimals and decimals as fractions.
35. use the order relationships ($>$ or $<$) to compare fractions and decimals.
36. solve equations involving decimals.
37. find square roots.
38. use the Pythagorean Theorem to solve right triangles.
39. know the meaning of ratios, rates and unit rates.
40. write phrases as ratios, rates, and unit rates.
41. solve problems by writing ratios and rates.
42. know the meaning of proportion and write sentences as proportions.
43. solve proportions.
44. solve problems by writing proportions.
45. use proportions to find side measures of similar triangles.
46. convert among percents, decimals, and fractions.
47. solve percent problems by equations/proportions.
48. apply percent to solve problems involving percent of increase, percent of decrease, sales tax, commission, discount and interest.
49. read pictograph, bar graphs, circle graphs and line graph.
50. plot points on a rectangular coordinate system.
51. determine whether order pairs are solutions of equations.
52. complete ordered pair solutions of equations.
53. graph linear equations.
54. from data find mean, median, and mode.

IV. Instructional Procedures

A variety of instructional methods will be used, mainly lecture. The textbook will be used as a workbook. Assignments will be made for additional practice problems and review for tests. There will be lectures and reviews for quizzes and tests. Students will be encouraged to ask for individual assistance in class from the instructor.

An inexpensive scientific calculator will be used in the course, however, it is recommended that handwork be done where feasible.

V. Instructional Materials

A. Student Materials

1. Textbook: Prealgebra — Third Edition
Authors: K. Elayn Martin-Gay
Publisher: Prentice Hall, Inc.
Date: 2001
2. A calculator is required for this course.

A three-ring binder notebook and notebook dividers or equivalent for student organization of class materials.

Pencils

B. Instructor Materials

1. The instructor will prepare handouts to supplement material in the book when appropriate.

Additional resource materials for some New River Community College classes can be found on the NRCC Web-based learning site at nr.edu/learninglinks.

VI. Course Content

Chapter 1 — Whole Numbers and Introduction to Algebra
Chapter 2 — Integers
Chapter 3 — Solving Equations and Problem Solving
Chapter 4 — Fractions
Chapter 5 — Decimals
Chapter 6 — Ratio and Proportion
Chapter 7 — Ratio, Proportions, and Percent
Chapter 8 — Graphing and Introduction to Statistics
Chapter 9 — Geometry and Measurement

VII. Grading

There will be three (3) factors considered in evaluation: tests, quizzes (tentative), and a comprehensive final exam.

Tests – There will be five (5) tests plus the average of all quizzes, if quizzes are given, counts as one test grade. Each test will be announced several days in advance. A test will be postponed if the college is officially closed. **No make up tests are given, EVER. When taking a test, or quiz, all books and notebooks must be moved from the work area. The test must be taken on the day they are scheduled.**

Quizzes - There may be scheduled and unscheduled quizzes. Points earned from quizzes will be averaged and counted as one test grade. **There will be NO make up quizzes given.**

Final Exam - A comprehensive final exam will be given. The final exam grade will be recorded twice.

Attendance - Attendance will be taken daily.

Grades - At the end of the semester, each student has the following grades:

5 test grades (The average is 70% of the final grade.)

1 test grade from the average of the quizzes (tentative)

final exam grade (The final exam is 30% of the final grade for the course.)

The final exam grade may be used to replace the lowest test grade. Only ONE test grade may be replaced though. The grades will be averaged. An average of 75 or better is needed to successfully complete the course and receive a grade of "S." There is a possible 700 points. 525 points are needed to successfully complete the course and receive a grade of "S".

Grades used in MTH 09 are:

S = 75 - 100

U = 0 - 74

W = The college withdrawal policy will be followed.

X = Audit - No credit. Student must attend class, complete homework assignments, and take tests and quizzes.

Cheating - Cheating in any form, receiving or giving help on a test, will not be tolerated. Any student involved in cheating will receive a U for MTH 09 and may no longer attend class.

Tardy - If a student is tardy for class, he must see the instructor at the end of that class period in order to be counted present. Two (2) tardies or early departures count as an absence. A tardy for 15 minutes or more counts as an absence. Leaving early, except in emergencies, counts as an early departure. Two of them count as an absence.

If a student misses a test or a quiz because he is tardy or leaves class early, a grade of "0" is recorded.

VIII. Withdrawal Policy

Student Initiated Withdrawal Policy

A student may drop or withdraw from a class without academic penalty during the first sixty percent (60%) of a session. For purposes of enrollment reporting, the following procedures apply:

- a. If a student withdraws from a class prior to the termination of the add/drop period for the session, the student will be removed from the class roll and no grade will be awarded.
- b. After the add/drop period, but prior to completion of sixty percent (60%) of a session, a student who withdraws or is withdrawn from a course will be assigned a grade of "W." A grade of "W" implies that the student was making satisfactory progress in the class at the time of withdrawal, that the withdrawal was officially made before the deadline published in the college calendar, or that the student was administratively transferred to a different program.

- c. After that time, if a student withdraws from a class, a grade of "F" or "U" will be assigned. Exceptions to this policy may be made under documented mitigating circumstances if the student was passing the course at the last date of attendance.

A retroactive grade of "W" may be awarded only if the student would have been eligible under the previously stated policy to receive a "W" on the last date of class attendance. The last date of attendance for a distance education course will be the last date that work was submitted.

Late withdrawal appeals will be revised and a decision made by the Director of Student Services.

Instructor Initiated Withdrawal Policy

A student who adds a class or registers after the first day of class is counted absent from all class meetings missed. Each instructor is responsible for keeping a record of student attendance in each class.

Students who have not attended class or picked up/accessed distance learning materials by the last day to drop class and receive a refund must be withdrawn by the instructor during the following week. No refund will be applicable.

Since attendance is not a valid measurement for Distance Education (DE) courses, students may be withdrawn due to non-performance. Students should refer to his/her DE course plan for the instructor's policy.

When a student's absences equal twice the number of weekly meetings of a class (equivalent amount of time for summer session), the student may be dropped for unsatisfactory attendance in the class by the instructor.

When an instructor determines that absences constitute unsatisfactory attendance, an Instructor Withdrawal Form should be completed and submitted to the Admissions and Records Office within five days of when the student met the withdrawal criteria. The last date of attendance must be documented. A grade of "W" will be recorded during the first sixty percent (60%) period of a course. Students withdrawn after the sixty percent (60%) period will receive a grade of "F" or "U" except under documented mitigating circumstances when a letter of appeal has been submitted by the student. A copy of this documentation must be placed in the student's academic file.

The student will be notified of the withdrawal by the Admissions and Records Office. An appeal for reinstatement into the class may be approved only by the instructor.

IX. Other

Diversity Statement: The NRCC community values the pluralistic nature of our society. We recognize diversity including, but not limited to, race, ethnicity, religion, culture, social class, age, gender, sexual orientation and physical or mental capability. We respect the variety of ideas, experiences and practices that such diversity entails. It is our commitment to ensure equal opportunity and to sustain a climate of civility for all who work or study at NRCC or who otherwise participate in the life of the college.

Disability Statement: If you are a student with a documented disability who will require accommodations in this course, please register with the Disability Services Office located in the Counseling Center in Rooker Hall for assistance in developing a plan to address your academic needs.

X. Office Hours

My office is located in **Martin Hall, Room 214**; my hours will be **Mondays and Wednesdays, 1:30 - 2:30, or as needed.** Phone is 674-3600, extension 4359. Home Phone: 980-2584, email: nrdoolk@nr.edu