NEW RIVER COMMUNITY COLLEGE

DUBLIN, VIRGINIA

COURSE PLAN

Course Number and Title: MTH 03 – Algebra I

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Approved by: Spring, 2008
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I.   Course Description

Covers the topics of Algebra I including real numbers, equations and inequalities, exponents, polynomials, factoring, 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. Contact 5 hours per week.

II.   Introduction

In addition to developing a strong base of algebra skills, this course is intended to help you learn "how to learn" mathematics. It is intended to help relieve your anxiety and build your confidence in your mathematics skills. With the mathematics and study skills you will develop in MTH 03, you should be able to move to the next mathematics course with a higher expectation of success.

III.   Course Content

Chapter 1 Real Numbers
1.1 The Real Number Line and Absolute Value
1.2 Addition with Integers
1.3 Subtraction with Integers
1.4 Multiplication and Division with Integers
1.5 Exponents, Prime Numbers, and Order of Operations
1.6 Multiplying and Dividing Fractions
1.7 Adding and Subtracting Fractions
1.8 Decimal Numbers and Change in Value
1.9 Properties of Real Numbers

Chapter 2   Algebraic Expressions, Linear Equations, and Applications

2.1   Simplifying and Evaluating Algebraic Expressions

2.2   Translating English Phrases and Algebraic Expressions

2.3   Solving Linear Equations: $x + b = c$ and $ax = c$

2.4   Solving Linear Equations: $ax + b = c$

2.5   Applications: Number Problems and Consecutive Integers

2.6   Applications: Percent Problems

Chapter 3   Formulas, Applications, and Linear Inequalities

3.1   Working with Formulas

3.2   Formulas in Geometry

3.3   Applications

3.4   Ratios and Proportions

3.5   Linear Inequalities

Appendix A.1   Absolute Value Inequalities

Chapter 4   Straight Lines and Functions

4.1   The Cartesian Coordinate System

4.2   Graphing Linear Equations in Two Variables

4.3   The Slope-Intercept Form: $y = mx + b$

4.4   The Point-Slope Form: $y - y_1 = m(x - x_1)$

4.5   Introduction to Functions and Function Notation

4.6   Graphing Linear Inequalities in Two Variables

Chapter 5   Exponents and Polynomials

5.1   Exponents

5.2   More on Exponents and Scientific Notation

5.3   Identifying and Evaluating Polynomials

5.4   Adding and Subtracting Polynomials

5.5   Multiplying Polynomials

5.6   Special Products of Polynomials

5.7   Dividing Polynomials

Appendix A.2   Synthetic Division

Chapter 6   Factoring Polynomials and Solving Quadratic Equations

6.1   Greatest Common Factor and Factoring by Grouping

6.2   Special Factoring Techniques I

6.3   Special Factoring Techniques II

6.4   Solving Quadratic Equations by Factoring

IV.   <u>Instructional Materials</u>

Textbook: <u>Introductory</u> <u>and</u> <u>Intermediate</u> <u>Algebra.</u> by D. Franklin Wright, 1st Edition, ISBN: 0-918091-90-X

Calculator: A scientific calculator is recommended. A graphing calculator will not be needed for this course.   Calculators on mobile phones are not allowed to be used in class.

Other
Materials: Graph paper (*For chapters 3 and 8)*
Pencils *(Note: Pen should NOT be used)*
Paper to take notes on.

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

V.   <u>Evaluation/Grading</u>

<u>Quizzes:</u>   There will be approximately 6 quizzes, over homework problems throughout the semester, one quiz before each test. **There will be no make up quizzes given. Any missed quiz will receive the score of "0". (See Class Work below.)** *The average of all quiz grades will count as 10% of the course grade.*

<u>Tests:</u>   There will be 6 tests. **There will be no make up tests given. Any missed test will receive the score of "0". (See Final Exam below.)** *The average of all tests will count as 60% of the course grade.*

<u>In-class work:</u>   **There will be no make-up tests or quizzes given**. Occasionally there might be problems to do in class.

<u>Homework:</u>   Homework will be assigned to be done using the Hawks Learning System software that comes with the textbook. Details about this will be given out later. *Homework will count as 10% of the course grade.*

<u>Final Exam:</u>   There will be a comprehensive final exam. The final may also be used to replace **one** lowest test score. Only one test score may be **replaced** with the final grade. *The final counts as 20% of the course grade. If a student has a 95% average on all work prior to the final, that student will be exempt from the Final Exam.*

Course Grade:

$(0.10)(Quiz Avg) + (0.60)(Test Avg) + (0.10)(Hmwk) + (0.20)(Final) = Course Average$

> S = Satisfactory: You must have a course average of 75% or higher.
> U = Unsatisfactory: You have a course average below 75%.
> I = Incomplete: 80% of the course must be completed with an average of 75 or higher. Therefore, an "I" grade can only be given if a student has an average of 75 or higher, and is unable to take the Final Exam.
> W = Withdrawal: The college Withdrawal Policy will be followed

VI.   Class Procedures

During tests students should have nothing on their desk except the materials permitted for the test. All other books, papers and notebooks must be moved out of the work area. Only instructor provided scratch paper and formula sheets are allowed.

All cell phones should be turned off or turned to silent during class.

No food or drinks in the class room.

VII.   Cheating Policy

The giving or receiving of any help on any graded portion of the course is considered cheating and will not be tolerated. The use of books, notes, electronic devices, cell phone calculators or any other unauthorized material during tests or quizzes is considered cheating. Any student found cheating will receive a grade of "0" on that portion and possibly a "F" for the course. This "0" will not be replaced by the final exam score.

VIII.   Attendance and Withdrawal Policies

Attendance

Attendance will be taken at the beginning of each class meeting. Students missing class are responsible for any material covered and assignments made in their absence. Graded in-class work cannot be made up. Students arriving late should come in quietly. They are responsible to inform the instructor *after* class that they were present.

Two tardies or early departures count as an absence. **Use of the internet, without instructor permission, e-mailing, sleeping, or working on materials other than the math course materials, during class time, will be counted as an absence for the day.**

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 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" 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 reviewed and a decision made by the Coordinator 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 by the last day to drop class and receive refund must be deleted by the instructor during the following week. No refund will be applicable.

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, a Faculty 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" except under 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.

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

IX.   **Disability and Diversity Statements**

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 for assistance in developing a plan to address your academic needs.

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.