

**NEW RIVER COMMUNITY COLLEGE
DUBLIN, VIRGINIA**

COURSE PLAN

Course Number and Title: MTH 120 - Introduction to Mathematics

Prepared by: Caroline Abbott Spring, 2010
(Instructor) (Date)

Approved by: _____ Spring, 2010
(Dean) (Date)

I. Course Description

This course introduces basic algebra, logic, geometry, trigonometry, ratios and proportions, percent, problem solving, consumer mathematics, and descriptive statistics and briefly reviews basic arithmetic. Lecture 3 hours per week.

Mathematics for every day use will be included. The use of calculators will be required. The prerequisites are a satisfactory score on the appropriate proficiency examination and basic arithmetic skills.

II. Specific Objectives

Upon successful completion of the course, the student should be able to:

1. Express the ratio of two quantities in simplest form and solving application problems using ratios.
2. Understand rates and unit rates. Solve application problems using rates.
3. Solve direct proportions and direct proportion application problems.
4. Understand the concept of percentage.
5. Write a percent as a fraction or a decimal. Write a fraction or decimal as a percent.
6. Solve application problems pertaining to percentage.
7. Understand and calculate unit cost & determine the most economical purchase.
8. Calculate percent increase and percent decrease related problems. Apply percent increase and percent decrease to business-markup and discount problems.
9. Calculate simple and compound interests.
10. Calculate the initial and ongoing expenses of buying and owning a home.
11. Calculate the initial and ongoing expenses of buying and owning a car.

12. Calculate commissions, total hourly wages, and salaries.
13. Calculate checkbook balances and balancing a checkbook.
14. Interpret pictographs, pie graphs, bar graphs and broken-line graphs.
15. Understand histograms and frequency polygons.
16. Find the mean and median of a set of numbers.
17. Calculate GPA (current & cumulative).
18. Understand and convert between different units of length, weight and volume measurements in the U. S. system.
19. Perform arithmetic operations with the units of measurement mentioned in objective
20. Understand the concept and prefixes of the metric system.
21. Understand different units of measurement in the metric system including, meter, kilogram and liter.
22. Solve problems in the metric system.
23. Convert U. S. units to metric units and vice versa.
24. Define and describe lines and angles and solve problems involving angles formed by intersecting lines.
25. Define and describe geometric figures.
26. Find the perimeter of plane and composite geometric figures.
27. Solve perimeter application problems.
28. Find the area of plane geometric and composite figures.
29. Solve area application problems.
30. Find the volume of composite geometric solids.
31. Solve volume application problems.
32. Use a calculator to find the square root of a number.
33. Use the Pythagorean Theorem.
34. Solve application problems involving Pythagorean Theorem.
35. Identify similar and congruent triangles.
36. Solve application problems involving similar and congruent triangles.

III. Instructional Procedures

The primary mode of instruction will be lecture and class discussion. There are video tapes corresponding to the text available in the library and at the mall.

IV. Instructional Materials

1. Textbook: Basic College Mathematics: An Applied Approach
8th Edition
Aufmann/Barker/Leckwood
Houghton Mifflin Co.
2. Calculator: It is required that the student have a hand-held scientific calculator; one with algebraic logic is preferred. No cell phone calculators or sharing of calculators is allowed on tests or quizzes.

V. Course Content

See the attached schedule.

VI. Grading

See the individual instructor's addendum for specific grading policy. The following grades will be used in this course.

| | | | |
|---|-----------|---|---|
| A | Excellent | D | Poor |
| B | Good | F | Failure |
| C | Average | W | Withdrawal |
| | | X | Audit (Attendance policy is in effect.) |

VII. Cheating

The giving or receiving of help on any graded portion of the course will not be tolerated. The student will receive a grade of "0" on that portion and possibly an "F" for the course.

VIII. Withdrawal Policy

Student Initiated Withdrawal Policy

A student may drop or withdraw from a class without academic penalty during the first 60 percent 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 60 percent of a session, a student who withdraws from a class 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 reviewed and a decision made by the Director of Student Services.

No-Show Policy

A student must either attend face-to-face courses or demonstrate participation in distance learning courses by the last date to drop for a refund. A student who does not meet this deadline will be reported to the Admissions and Records Office and will be withdrawn as a no-show student. No refund will be applicable, and the student will not be allowed to attend/participate in the class or submit assignments. Failure to attend or participate in a course will adversely impact a student’s financial aid award.

Instructor Initiated Withdrawal

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 (face-to-face classes) or performance/participation (DE classes) in each class throughout the semester.

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.

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

In accordance with the No-Show Policy, a student who has not attended class or requested/accessed distance learning materials by the last day to drop the class and receive a refund must be withdrawn by the instructor during the following week. No refund will be applicable.

When an instructor withdraws a student for unsatisfactory attendance (face-to-face class) or non-performance (DE class), the last date of attendance/participation will be documented. Withdrawal must be completed within five days of a student’s meeting the withdrawal criteria. A grade of “W” will be recorded during the first sixty percent (60%) period of a course. A student 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 of reinstatement into the class may be approved only by the instructor.

IX. Other

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.

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.

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Evaluation: There will be 7 tests and a comprehensive final exam. The final exam will be counted twice for 2 100-point test grades. The lowest test grade will be dropped. This does not apply to the final exam grade. **There will be no make-up tests.** If a test is missed, a zero (0) will be given. The average of the tests with the exam counting twice will be calculated. If you wish to project your grade, you may use the following formula. Add the 6 highest test grades (dropping the lowest) to twice the final exam grade you expect to get and divide that number by 8. That will be your estimated total percentage point you get for the course. Then you can use the following grading scale for the grade you may get.

Grading Scale:

| |
|--------------|
| A = 91-100 |
| B = 81- 90 |
| C = 71- 80 |
| D = 61- 70 |
| F = Below 61 |

Final Exam: A comprehensive final exam will be given, and all students are required to take the exam.

Office: **Dublin:** 43 Godbey Ext. 4264

Office Hours: Monday – Thursday, 1:30 – 4:00 p.m.

Attendance: Regular and prompt attendance is required. The college's attendance policy is enforced.

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Assignment & Test Schedule (Tentative)

***Note: In order to be successful in this course, You must practice regularly and thoroughly.**
On some days more than one section will be covered.

| Section | Date | Assignment |
|-------------------------|-------------|--|
| 4.1 | January 25 | p. 177, #1-33 odd |
| 4.2 | January 27 | p. 181, #1-33 odd, 34 |
| 4.3 | January 29 | p. 187, #1-21 every other odd, 25-71 odd |
| Test #1 (Ch. 4) | February 3 | |
| 5.1 | February 5 | p. 205, #1-75 odd, 76-80 all |
| 5.2 | February 8 | p. 209, #1-35 odd |
| 5.3 | February 10 | p. 213, #1-33 odd, 35-37 all |
| 5.4 | February 10 | p. 217, #1-31 odd |
| 5.5 | February 12 | p. 221, #1-31 odd |
| Review | February 15 | p. 227, #1-28 all |
| Test # 2 (Ch. 5) | February 17 | |
| 6.1 | February 19 | p. 237, #1-33 odd |
| 6.2 | February 22 | p. 245, #1-41 odd |
| 6.3 | February 24 | p. 255, #1-41 odd |
| 6.4 | February 24 | p. 263, #1-23 odd |
| 6.5 | February 26 | p. 267, #1-23 odd, 26 |
| 6.6 | February 26 | p. 271, #1-21 odd |
| 6.7 | March 1 | p. 279, #1-15 odd, 16-19 all |
| Review | March 3 | p. 287, #1-25 all |
| Test #3 (Ch. 6) | March 5 | |
| 7.1 | March 15 | p. 299, #1-35 odd |
| 7.2 | March 17 | p. 305, #1-17 odd |
| 7.3 | March 17 | p. 309, #1-23 odd |

| Section | Date | Assignment |
|-------------------------|-----------------------|--|
| 7.4 | March 19 | p. 317, #1-21 odd, 24, 25 |
| Test #4 (Ch. 7) | March 24 | |
| 8.1 | March 26 | p. 345, #1-41 odd |
| 8.2 | March 29 | p. 349, #1-45 odd |
| 8.3 | March 29 | p. 353, #1-45 odd |
| Review | March 31 | p. 365, #1, 2, 4-14, 16, 19-22 |
| Test #5 (Ch. 8) | April 2 | |
| 9.1 | April 5 | p. 375, #1-37 odd |
| 9.2 | April 7 | p. 379, #1-35 odd |
| 9.3 | April 7 | p. 383, #1-33 odd |
| 9.5 | April 9 | p. 391, #1-33 odd, 34, 35 |
| Review | April 12 | p. 397, #1-26, 29, 31, 33 |
| Test # 6 (Ch. 9) | April 14 | |
| 12.1 | April 16, 19 | p. 523, #1-63 odd |
| 12.2 | April 21 | p. 533, #1-37 odd |
| 12.3 | April 23 | p. 541, #1-39 odd |
| 12.4 | April 26 | p. 551, #1-35 odd |
| 12.5 | April 28 | p. 558, #1-25 every other odd, 27-39 odd |
| 12.6 | April 30 | p. 565, #1-17 odd |
| Review | May 3 | p. 573, #1-25 all |
| Test #7 (Ch. 12) | May 5 | |
| Final Exam | May 12, 10:30 – 12:30 | |