NEW RIVER COMMUNITY COLLEGE

DUBLIN, VIRGINIA

COURSE PLAN

Course Number and Title: MTH 163 Precalculus

Prepared By: Pablo Chalmeta, Spring 2008 **Approved By: Mrs. Carol Hurst, Dean**

Reviewed By: _____ _____

INSTRUCTOR INFORMATION

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I. Course Description

Presents college algebra, matrices, and algebraic, exponential, and logarithmic functions. **Prerequisites**: Placement recommendation for MTH 163 and Algebra I, Algebra II and Geometry or equivalent.

Students not meeting the preceding criteria will not have the necessary mathematical background to be successful in this course. All students enrolled in MTH 163 will be required to take a readiness test at the beginning of the course. Based on the results of this test and other data available to the instructor, it will be determined whether or not students should remain in the course.

II. Specific Objectives

1. Work with integral and rational exponents.
2. Work with radicals.
3. Simplify algebraic expressions.
4. Demonstrate proficiency with a graphing calculator.
5. Work with algebraic expressions.
6. Solve linear inequalities.
7. Be familiar with interval notation.
8. Solve linear equations and applications involving linear equations.
9. Solve absolute value equations and inequalities.
10. Solve non-linear inequalities. (polynomial and rational)
11. Solve quadratic equations.
12. Solve equations which are reducible to quadratic form.
13. Sketch the graph of linear equations.
14. Sketch the graph of polynomial equations.

15. Sketch the graph of rational equations.
16. Define relation and function.
17. Determine the domain and range of a function.
18. Evaluate functions.
19. Find the inverse of a one-to-one function.
20. Apply functions.
21. Determine zeros of polynomial functions using synthetic division and rational zero theorem.
22. Work with composition of functions.
23. Approximate real zeros of a polynomial function.
24. Identify exponential functions.
25. Apply exponential functions.
26. Convert exponential equations to and from logarithmic equations.
27. Solve exponential equations.
28. Solve logarithmic equations.
29. Solve systems of equations using Gauss-Jordan Elimination.
30. Solve systems of equations involving second-degree equations
31. Perform matrix addition.
32. Perform scalar multiplication of matrices.
33. Perform matrix multiplication.
34. Find the inverse of a square matrix.
35. Use matrix equations to solve systems of equations.
36. Identify the parts of a parabola.
37. Sketch the graph of a parabola.
38. Find the equations of a parabola, given conditions.
39. Identify the parts of an ellipse.
40. Sketch the graph of an ellipse.
41. Find the equations of an ellipse, given conditions.
42. Identify the parts of a hyperbola.
43. Sketch the graph of a hyperbola.
44. Find the equations of a hyperbola, given conditions
45. Perform translation of axes for conics.

III. Student Materials

Textbook: Calculus I with Precalculus: A One-Year Course. Larson, Hostetler, and Edwards. 2/e Houghton Mifflin 2006. ISBN: 0-618-56806-9

Software: **Eduspace** homework software (comes bundled with a new book)

Calculator: Students are allowed to use a graphing calculator, such as a TI 83. The instructor will use a TI 83 in class.

Other: Pencils and paper. Ink is not recommended for any graded work. If you use ink on graded work, provide your own "white-out".

IV. Evaluation/Grading

Tests. There will be five tests given during the semester. There will be no make up tests. Any missed test will receive the score of "0". See Final Exam below. Tests may be taken early with reasonable notice. *The average on all tests will count as 65% of the course grade.*

Final Exam. There will be one comprehensive final given during finals week. The score on the final can also be used to replace the lowest test score (including any missed test.) *The final will count as 20% of the course grade.*

Homework: Giving your best effort on homework is the single best thing you can do to help you learn mathematics. As such the homework will be graded using the Eduspace software that comes bundled with a new book and will count for a significant portion of the grade. (15%) Be sure to also complete the written homework since those problems will also be on the test.

The grade for this course will be derived from three sources:

Five written tests	65%
Eduspace Homework	15%
Final Exam	20%

The following grading will be used:

Course Average	Grade
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
Below 60	F

Note: I do not curve grades. I do not "give" grades. You earn what you get, so plan to work accordingly.

V Email Policy

If you send me an e-mail, you should include a **descriptive** subject line. Please remember to use complete sentences and follow the rules of grammar. Do not expect a prompt reply to your e-mails concerning last minute questions about an exam the next day.

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 in the floor. 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 the class room.

VIII. Cheating Policy

The giving or receiving of any help from another student or unauthorized individual on any graded portion of the course is considered cheating and will not be tolerated. The use of books, notes, electronic devices of any other unauthorized material during tests is considered cheating, and will not be tolerated. Any student found cheating will receive a grade of "0" on that assignment and may receive an "F" for the course. This "0" cannot be replaced by any other score. Mobile phones are not permitted to be used as calculators.

IX. Attendance and Withdrawal Policy

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.

(from NRCC Catalog 2005 – 2006 p. 28-29)
Student-Initiated Withdrawal Policy

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

a. If a student withdraws from a class prior to the termination of the add/drop period for the session, the student is removed from the class roll and no grade is awarded.

b. After the add/drop period, but prior to completion of sixty percent (60%) of a session, a student who withdraws 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 or is withdrawn from a course, a grade of "F" will be assigned. Exceptions to this policy may be made under 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 or picked up/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.

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%) 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.

X. 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.

XI. 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.