NEW RIVER COMMUNITY COLLEGE

DUBLIN, VIRGINIA

COURSE PLAN

Course Number and Title: MTH 271 Applied Calculus I

Prepared by: Caroline Abbott (Instructor) Spring, 2007 (Date)

Approved by: _____ (Interim Dean) Spring, 2007 (Date)

Course Description: Math 271 presents matrices, limits, continuity, differentiation of algebraic and transcendental functions with applications, and an introduction to integration.

Prerequisite: Placement into Math 271 or successful completion of Pre-calculus.

Instructional Materials:

Textbook: Calculus I with Pre-calculus
Larson, Hostetler, & Edwards
Houghton Mifflin
2nd Edition, 2006

Calculator: A graphing calculator is recommended for this course.
TI-83 or above is suggested.

Grading: Your course grade will be based on the following:

Special Assignments	10%
Chapter Tests: 5 @ 14% each	70%
Final Exam	20%

Letter grades will be assigned based on your final percentage as follows:

90 – 100	=	A
80 – 89	=	B
70 – 79	=	C
60 – 69	=	D
Below 60	=	F

Schedule: You will be given a schedule with the Course Outline. The schedule includes the text material to be covered on each class meeting day and the dates of the Chapter Tests. Every attempt will be made to keep to this schedule, however if it becomes necessary to alter the schedule an announcement will be made in class, and a new schedule will be published if necessary.

Attendance and Participation: Attendance is important. It is in your best interest to attend class every day. Attendance will be taken daily at the beginning of class, and a record of attendance maintained for the semester. There will not be an excused absence recorded for any reason for a missed class session. If you miss a class, you are responsible for any work missed, and you are responsible for finding out if there is any change in the assignments or the schedule. Additionally, the attendance requirements outlined in the college catalog regarding Instructor Initiated Withdrawals will be followed.

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 the class and receive a 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 will be dropped for unsatisfactory attendance in the class by the instructor. Two tardies are equivalent to 1 absence.

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%) of a course. Students withdrawn after the sixty percent (60%) period will receive a grade of "F" 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.

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

Assignments:

- Daily Homework: You will be given a homework Assignment Sheet with the Course Outline. Doing all of the assigned homework and asking questions are crucial parts of learning mathematics. The homework will not be collected or graded. You are responsible for understanding all of the assigned homework problems. Time will be allowed each class period for questions on the homework assignments.
- Special Assignments: Periodically there will be special assignments related to the homework you have been assigned. These assignments will take the form of in-class quizzes, take-home quizzes or projects. Every special assignment will have a due date and must be received by the instructor by or before the specified due date. *No late work will be accepted*. These assignments will be graded and returned to you. In total these special assignments will constitute 10 % of your final course grade.

Tests: At the completion of each chapter there will be a Chapter Test over the material covered. The Tests will be given as scheduled. *There will be NO makeup given for a missed test*. A missed Test will be recorded as a 0 (zero).

Cheating: The giving or receiving of any help on any graded portion of the course is considered cheating and will not be tolerated. Any student found cheating will receive a grade of "0" on that portion and possibly an "F" for the course. This "0" will not be replaced by the final exam score. Obtaining assistance on homework does not qualify as cheating. You are encouraged to get extra help as needed to assure you understand the procedures to solve a problem. You are encouraged to form study groups. You are encouraged to come to the instructor's office during office hours for additional help. You are encouraged to arrange tutoring through the office of Academic Assistance in Martin Hall. It is your responsibility to take advantage of all opportunities available to you to learn the material. Do not wait until you are completely lost to get help!

Additional Information:
Any student with special needs or circumstances should meet with the instructor during office hours. The best way to contact the instructor is at the office, or via email.

Course Objectives: Upon completion of Math 271, Applied Calculus I, the student should be able to:

1. Use degree and radian units to measure angles.
2. Place an angle in standard position on the axes.
3. Determine the reference angle for an angle in standard position.
4. Define the trigonometric functions.
5. Evaluate the trigonometric functional values for an angle in standard position.
6. Apply the inverse trigonometric functions to solve for particular angles.
7. Define the circular functions.
8. Graph the trigonometric functions.
9. Solve trigonometric equations.
10. Compute average rate of change.
11. Estimate instantaneous rate of change using the average rate of change.
12. Determine the slope of the secant line of a function.
13. Graph and estimate the slope of a tangent line to a function by means of a secant line.
14. Evaluate the difference quotient for a function.
15. Evaluate limits.
16. State and apply the definition of a derivative.
17. State and apply the definition a continuity at a point.
18. Determine if a function is differentiable at a point.
19. Apply differentiation rules to algebraic, exponential and logarithmic functions.
20. Evaluate higher order derivatives.
21. Evaluate implicit derivatives.
22. Through application of the first and second derivative of a function, determine the following:
    i. Intervals of increasing/decreasing
    ii. Concavity
    iii. Relative and absolute extrema
    iv. Inflection points
23. Use derivatives to solve optimization problems.

Disability:

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.

Please feel free to talk to me privately concerning your accommodations and we will work together with the Disability Services Office staff, Jeananne Dixon and Phyllis Holliman (Rooker Hall, Counseling Center).

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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