Math 154, CRN 17916, Calculus 1B with Pre-calculus, Spring 2011.

Pre-Requisites: Grade C or better in Math 153

Meeting Times: On Line Course
Location: On Line Course
Instructor of Record: Mary Ann Clarke (but you may have a local facilitator)
Office: 408 H Armstrong Hall
Office Phone: 304.293.2011 x 2339
Email: maclarke@math.wvu.edu
Web: http://www.math.wvu.edu/~maclarke

Marking: 90 – 100 % A (The plus and minus may be given at instructor discretion.)
80 – 89 % B
70 – 79 % C
60 – 69 % D
59 % or less F

Grade Calculation:
Facilitator HW/Other 10 %
Worksheets/On-Line Quizzes 10 %
4 Tests (15% each) 4 x 15% = 60 %
Final Exam 20 %

Course Content:
This is the second part of a two-semester introduction to calculus covering functions, rates of change and differentiation as well as accumulation and integration. The course will study algebra and trigonometry as needed for the development of calculus concepts. More time will be spent in this course on the details of algebraic manipulation and the underlying algebra and trigonometry than in the one semester Math 155 course. At most, 10 credit hours toward fulfilling objective 2 of the General Education Curriculum may be counted from the courses Math 126, 128, 129, 153, 154, 155 grouping.

The specific goals of this 153 course will be to stress an algebraic, graphic and numeric approach to the study of:
1. the concept of function and families of functions
2. using functions as models and applying modeling techniques to problem solving, and
3. using the derivative as a tool to solve problems involving rates of change and more
4. using the definite integral and area to solve problems involving accumulation, distance and more

Learning Objectives:
Conceptual Understanding: Students will learn to explore and understand central concepts in algebra and calculus.
Computational Skills: Students will develop proficiency in manipulating algebraic expression and the computation of derivatives and integrals.
Problem Solving: Students will gain experience as problem solvers, using heuristics to analyze problems in an organized manner.
Multiple Approaches: Students will examine problems from analytical, geometric and numeric perspectives, make decisions about the appropriateness of the choice of formal or approximate methods of solution.
Active Student Learning: Students will engage in the exploration and discovery of concepts, learn to work cooperatively to solve problems, and participate in group discussions.
Communication of Ideas: Students will demonstrate understanding by explaining in written or oral form the meanings and applications of concepts.
WVU Social Justice Statement: West Virginia University is committed to social justice. I expect to maintain a positive learning environment based upon communications, mutual respect, and non-discrimination. It is our university’s policy that no discrimination on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin will be tolerated. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with Disability Services at 293-6700.