Calculus II (4 credits)
MA211 Spring 2000
M, W   11:00AM - 12:05 PM
    F   11: 00 AM - 12:10 PM Room ~~TBA~~ H39

Instructor : Mi-Soo Smith   Office HH018   Ext. 681
                                  Office Hour : By appointment

Textbook: Calculus of Single Variable, by Larson, Hostetler, Edwards (Fifth Edition)
            ISBN 0-669-35250-0   D. C. Heath and Company

Course description: Continuation of MA210. Differentiation and integration of transcendental functions
        including exponential, logarithmic, and inverse trigonometric functions, and more techniques of
        integration make up the first part of the course. The second part covers topics in sequences and
        series, limits of sequences, the L'Hopital's rule, convergence and divergence of series, Taylor
        series, and general discussion of power series. Offered annually.
        Prerequisites: MA 210 or equivalent or by placement.

Course Objectives: With this course elementary calculus with single variables is completed. Upon
        successful completion of this course the students are expected to have mastered all basic
        techniques of integration , computation of limits, fundamentals on sequences and series, and
        series representation of elementary functions together with radius of convergence.

Grading Policy: Homework (30%), Quizzes and Midterm Exams (30%) , Final Exam (40%)
        Overdue homework will not earn points.

Homework Exercise: Unless otherwise indicated, students are to work on all odd numbered exercise
        problems of relevant section. Submit only red numbered problems for correction.

Course Outline: The following course outline is a tentative one. We may need to adjust it as needed.
        Students are requested to preview the text referring the course outline.

Chapter 5 : Logarithmic, Exponential, and Other Transcendental Functions (Skip 5.6 , 5.9) (2 weeks)
        Key words: The natural logarithmic function, the natural exponential function, Inverse functions,
                base other than e , inverse trigonometric functions and differentials, integrations, and
                completing the square   -
Chapter 6 : Applications of Integration (Skip 6.5, 6.6 and 6.7)   (2 weeks)
        Key words: Area of a Region Between Two Curves, Volume (Disc method, shell method),
                solids of revolution, arc length.
Chapter 7 : Integration Techniques, L'Hopital's Rule, and improper Integrals (3 weeks)
        Key words : Integration by parts, Trigonometric integrals, trigonometric substitution, Partial
                fraction, Indeterminate Forms, L'Hopital's Rule, Improper Integrals
Chapter 8 : Infinite Series (4 weeks)
        Key words: Sequences, Series and convergence, divergence, integral test, p-series, harmonic
                series, alternating series, ratio test, root test, Taylor polynomials, Taylor series, power
                series, representation of functions by power series, radius of convergence, Taylor and
                Maclaurin series'
Chapter 10 : Plane Curves, Parametric Equations, and Polar Coordinates   (2 weeks)
        Key words : Parametric equations, Polar coordinates and polar curves, area and arc length in polar
                coordinates