Math 255 – Calculus II
Objectives/Competencies:

Upon successfully completing MATH 255, a student will be able to:

1. Compute antiderivatives.
2. Estimate value of a definite integral using the Trapezoidal Rule and Simpsoníss Rule.
3. Use Reimann sums to evaluate a definite integral.
4. Use the Fundamental Theorem to evaluate a definite Integral.
5. Use substitution techniques to evaluate integrals.
6. Integrate logarithmic and exponential forms.
7. Integrate generalized trigonometric forms.
8. Integrate inverse trigonometric forms.
9. Define the hyperbolic trig functions.
10. Integrate basic hyperbolic trig forms.
11. Use integration by parts.
12. Use trigonometric substitutions to integrate expressions.
13. Use partial fractions to integrate rational expressions.
14. Use special substitutions.
15. Intro to differential equations.
16. Solve Growth & Decay problems.
17. Evaluate Logistic equations.
18. Find the area bounded by the graphs of two functions.
19. Find the volume of a solid of revolution
    a. by disc method
    b. by washer method
    c. by cylindrical shells
20. Solve work problems involving work, fluid pressure and fluid force.
21. Identify and evaluate improper integrals.
22. Apply L'Hopital's Rule to appropriate limits.
23. Extend L'Hopital's Rule to other indeterminate forms.
24. Define sequences and infinite series.
25. Determine the convergence or divergence of an infinite series by the appropriate convergence test.
26. Expand a function with a MacLaurin's or Taylor's power series.
27. Determine the radius of convergence of a power series.
28. Differentiate and integrate Taylor series.