MATH1134 - Calculus I

Credits:	5 (5/0/0)
Description:	Meets MnTC Goal Areas 2 and 4. This course includes limits and continuity, derivatives, definite and indefinite integrals of algebraic, trigonometric, exponential and logarithmic functions, and applications of the derivative and definite integral.
Prerequisites:	• MATH1116 OR • MATH1118 OR • MATH1115 • or by placement exam
Corequisites:	
Pre/Corequisites*:	
Competencies:	1. Examine precalculus concepts including algebraic functions and graphs. 2. Explore the concepts of limits and continuity. 3. Discover the derivative through the limit process and the tangent line problem. 4. Perform the basic differentiation techniques. 5. Apply differentiation to find extrema. 6. Find area using Riemann sums and integration. 7. Utilize the fundamental theorems of Calculus to evaluate definite integrals. 8. Perform numerical integration and integration by substitution. 9. Differentiate and integrate logarithmic functions. 10. Differentiate and integrate exponential functions. 11. Perform differentiation using the chain rule. 12. Utilize implicit differentiation. 13. Differentiate using the product and quotient rules. 14. Utilize the Mean Value Theorem and Rolle's Theorem. 15. Use differentiation for graphing, related rates, differentials, and optimization. 16. Perform basic integration techniques.
MnTC goal areas:	2. Critical Thinking 4. Mathematics/Logical Reasoning

Can be taking as a Prerequisite or Corequisite.

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