

## MATH1122 - Applied Calculus

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|--------------------|---|
| Credits:           | 3 (3/0/0)   |
| Description:       | Meets MnTC Goal Areas 2 and 4. This course is an introduction to optimization, differential and integral calculus with an emphasis on application in the areas of business and the life and social sciences. This course is intended for all liberal arts and science students but is highly recommended for students pursuing business careers.  |
| Prerequisites:     | <ul style="list-style-type: none"> <li>• MATH1114</li> </ul>  |
| Corequisites:      |   |
| Pre/Corequisites*: |   |
| Competencies:      | <ol style="list-style-type: none"> <li>1. Perform operations with matrices and utilize them to solve systems of equations.</li> <li>2. Express problems as linear programming problems.</li> <li>3. Solve linear programming problems.</li> <li>4. Understand the concepts of limits, continuity and differentiation.</li> <li>5. State and apply the basic rules of differentiation to polynomial, rational, radical, exponential and logarithmic functions.</li> <li>6. Use the properties of derivatives to solve applications.</li> <li>7. State and apply the basic rules of integration.</li> <li>8. State and apply the fundamental theorem of calculus.</li> <li>9. Use the definite integral to solve applications.</li> <li>10. State and apply the product, quotient and chain rule of differentiation.</li> </ol> |
| MnTC goal areas:   | <ol style="list-style-type: none"> <li>2. Critical Thinking</li> <li>4. Mathematics/Logical Reasoning</li> </ol>  |

\*Can be taking as a Prerequisite or Corequisite.