

# Louisiana Delta Community College

## Academic Affairs Master Syllabus

**Course Name:** CALCULUS I  
**Course Number:** MATH 220

**Credit Lecture hours:** 5      **Credit Lab Hours:** 0      **Credit Hours:** 5

**Textbook, Author, and Publisher:** To be provided by College Campus

**Instructor Information:** To be provided by College Campus

**Class Location:** To be provided by College Campus

### **Course Description:**

This is the first in a three-course sequence. The concept of a limit is introduced, and it is used to develop the concept so continuity and the derivative. These are studied numerically, graphically, and analytically for a wide variety of elementary and transcendental functions. Applications of the derivative relating to curve sketching, related rates, and optimization are developed. Definite and indefinite integrals, the Fundamental Theorem of Calculus, and applications of the integral are also introduced.

**Prerequisites:** MATH 105/110 and MATH 111 or MATH 120 with a C or better.

**Co-requisites:** None

### **Learning Outcomes:**

On completion of this course, the student will be able to:

1. Find the limits of a variety of algebraic and transcendental functions both analytically and graphically
2. Determine the continuity of a function at a point, and classify a discontinuity as either removable or non-removable
3. Find the derivative of a variety algebraic and transcendental functions using the limit definition of the derivative
4. Apply the basic rules of a differentiation (Power, Sum/Difference, Product, Quotient, and Chain) to find the derivative of a variety of algebraic and transcendental functions
5. Apply the derivative to find the equation of the tangent line to a curve at a given point.
6. Apply the derivative to solve problems of related rates
7. Apply the derivative as a n aid to curve sketching
8. Find the anti-derivative of a variety of algebraic and transcendental functions.
9. Find the area under the curve of a non-negative continuous function bounded on a closed interval using Reimann Sums
10. Apply the Fundamental Theorem of Calculus to evaluate a definite integral.

**Assessment Measures:** To be provided by the College Campus.

**Library Resource Center:**

The Delta Library and Learning Resource Center is committed to providing quality information and learning resources and services, including technology, in supporting the overall mission of Delta Community College and its commitment to lifelong learning.

**Special Accommodations:**

Louisiana Delta Community College complies with Section 504 of the Rehabilitation Act, as well as the Americans with Disabilities Act. Students with disabilities who attend the Monroe campus may make a request by contacting the Director of Counseling and Disability Services (See College Directory for contact information.) at the beginning of each semester. Reasonable accommodations will be attempted for students with documented disabilities. If an impairment is identified later in the semester, a non-retroactive accommodation plan will be developed. Students at satellite campuses should contact the Coordinator of Student Affairs at their particular campus.

**Title IX:**

Louisiana Delta Community College is committed to protecting the rights of students, which includes compliance with Title IX requirements. As such, the institution and members of our community will not tolerate the offenses of dating violence, domestic violence, sexual assault, and stalking. Students with Title IX concerns should contact the College's Title IX Coordinator (See College Directory for contact information.) Students are required to complete Sexual Assault Awareness and Prevention Online Training. Access to this online course will be sent out through the Delta email account.

**Student Code of Conduct:**

Louisiana Delta Community College encourages an environment of academic integrity and mutual respect. Students should read and follow both academic and behavioral expectations identified in the Code of Student Conduct that can be found online at [www.ladelta.edu](http://www.ladelta.edu). Students are expected to act with integrity, respect the rights of others, and conduct themselves in a professional manner. The Honor Code prohibits academic misconduct such as cheating, engaging in unauthorized collaboration, and plagiarism. Violations of the Code of Student Conduct may result in disciplinary action as provided in the Code. Incidents are reported through the online Student Conduct system.