

**NORTHWEST MISSISSIPPI COMMUNITY COLLEGE**  
**STANDARD COURSE SYLLABUS**  
**BUSINESS CALCULUS I – MAT 1513**

COURSE TITLE: Business Calculus I - MAT 1513

COURSE DESCRIPTION: ( 3 credit hours) A study of functions, limits, continuity, derivatives, and their applications to business and economics. Pre-requisite: MAT 1313 with letter grade of C or higher or ACT math sub-score of 22 or higher.

COURSE GOALS: This course will provide instruction in the basics of differential calculus with emphasis on business applications.

OUTCOME COMPETENCIES:

The student will be able to:

1. Graph and write equations for lines; use break-even analysis; evaluate limits; and discuss continuity and discontinuity.
2. Differentiate functions by using rules for differentiation, including the Chain Rule and the Product and Quotient Rules; write an equation of the line tangent to the graph of a function at a point; discuss rates of change – velocity and marginals; find higher-order derivatives; differentiate implicitly; and define derivative as a limit of the difference quotient.
3. Graph functions, labeling relative extreme values and points of inflection, and showing concavity; use First-Derivative and Second-Derivative Tests; solve optimization problems, including applications from business and economics; discuss vertical and horizontal asymptotes; and use differentials to approximate changes, including marginal analysis.
4. Graph exponential functions (including the natural exponential function) and solve equations containing exponential expressions; differentiate exponential and logarithmic functions.

COURSE REQUIREMENTS:

1. Students must meet the requirements of the NWCC attendance policy.
2. Students must have a final average that is passing as defined by the grading scale listed in the Course Outline.

METHODS OF INSTRUCTION:

The methods of instruction used for this course may include any or all of the following: lecture, discussion, problem sessions, and homework.

EVALUATION TOOLS:

Evaluation tools used for this course may include any or all of the following: tests, quizzes, homework, projects, and a comprehensive final exam.

REQUIRED TEXTBOOK:

Calculus with Applications: 10<sup>th</sup> edition.

By Lial, Greenwell, Ritchey,  
Pearson, publisher

REQUIRED EQUIPMENT/MATERIALS/SUPPLIES:

See the individual instructor's Course Outline for the specific equipment/materials/supplies to purchase.

GRADING POLICY:

NWCC does not have a standard grading scale for all classes. See the individual instructor's Course Outline for the specific grading scale used for this class.

NWCC'S OFFICIAL ATTENDANCE POLICY FOR NON-ONLINE CLASSES:

ABSENCES: Regular and punctual attendance at all scheduled classes is expected of all students and is regarded as integral to course credit. There are times, however, when students must miss class. Nevertheless, if a student's absences exceed the equivalent of two weeks of class meetings, that student will be withdrawn from the class with a grade of "F." Online courses have additional information regarding class attendance included in the instructor's Course Outline.

Students are expected to be prompt in class attendance. A student is counted absent from class if he or she misses more than 10 minutes of a class meeting. Three tardies constitute one absence.

Particular policies and procedures on absences and makeup work are established for each class and are announced in writing at the beginning of the term. Each student is directly responsible to the individual instructor for absences and for making up work missed.

The instructor reserves the right to remove from the classroom any student whose conduct is disruptive to the learning process.

A student who has been reported as having excessive absences has the right to appeal. For more information about the appeal process, contact the Center Dean or the Associate Vice President for Academic Affairs.

**OFFICIAL ABSENCES:** Official absences are absences caused by a student representing the College for an approved function. These absences shall not count toward the student's total absences.

**ATTENDANCE POLICY FOR ONLINE CLASSES:**

For specific information regarding the attendance policy for online classes, see the Course Outline.

**PLAGIARISM AND CHEATING/ACADEMIC HONESTY:**

Both cheating and plagiarism are prohibited. Plagiarism is the presentation of another person's ideas, words, or work as one's own. Alleged violations involving cheating, plagiarism, and other academic misconduct will be handled according to the procedures outlined in the *NWCC Student Guide*. These procedures are as follows: Students involved in cheating or plagiarizing will be reported to a five-member Ad Hoc Committee on Cheating and Plagiarism. The chairman of this committee will be the Center Dean, Career-Technical Dean, or Associate Vice President for Academic Affairs as determined by the student's major. Other committee members will be the division director/chairman of the department in which the alleged dishonesty occurred, the student's faculty advisor, and two SGA members. The committee will review the alleged act and may assign sanctions ranging from imposing a failing grade in the course to withdrawal from the College. The decision of the committee is final.

**STATEMENT OF AUTHORITY:**

The instructor reserves the right to remove from the classroom any student whose conduct is disruptive to the learning process.

**ADA STATEMENT:** Students with disabilities are encouraged to notify their instructors of their condition at the beginning of the semester. The College and your instructors will make reasonable accommodations for persons with documented disabilities. Students with disabilities will find that NWCC administration, faculty, and staff will readily assist their needs. The Disability Support Services Office (DSSO) works with faculty and other members of the College to provide individualized accommodations and support services while promoting student responsibility and self-advocacy. It is the **student's responsibility** to make known a need for accommodations and services by providing appropriate documentation of the disability to the DSSO. **Forms and contact information are listed on the Northwest Mississippi Community College web page under Future Students – Disability Services.**

**ADDITIONAL POLICIES (COURSE OUTLINE):**

Individual instructors and specific programs may have policies and requirements in addition to those listed here. Any additional course information that is particular to a given teacher or program will be included in the Course Outline attached to this syllabus. Note: The instructor reserves the right to make any necessary changes to the information provided in the syllabus and the course outline during the semester.