

**COLLIN COUNTY COMMUNITY COLLEGE
COURSE SYLLABUS**

COURSE NUMBER: Math 1376
COURSE TITLE: Calculus for Business and Economics II
CREDIT HOURS: 3 **LECTURE HOURS:** 3 **LAB HOURS:** 1 **CLN/REC HOURS:** 0
PREREQUISITE: Math 1325
COREQUISITE: None

TEXTBOOK:

Calculus with Applications, Lial, Greenwell, Ritchey, 9th edition, 2008 Pearson Education, Inc.

For online courses: e-mail your professor, cmalek@ccc.edu, for textbook information.

SUPPLIES: Graphing calculator required

COURSE DESCRIPTION:

(Continuation of MATH 1325) In this course, application of differential equations, functions of several variables, Lagrange Multipliers, Least Squares Modeling, multiple integrals and infinite series will be covered. Basic concepts are related to multivariable calculus.

COURSE MEASURABLE LEARNING OBJECTIVES:

Upon completion of this course the students should be able to do the following:

1. Evaluate definite, indefinite and improper integrals including application to finding areas, consumer and producer's surpluses and volumes of solids.
2. Use partial derivatives to determine local and absolute extrema with applications to continuous money flow, Lagrange Multipliers and total differentials.
3. Solve double integrals, separable and first order differential equations and find initial value problems.
4. Find geometric and infinite series.
5. Solve Annuity and amortization problems with applications to business and economics.

COURSE REQUIREMENTS:

Attending lectures, completing assignments, completing required exams and labs, and knowledge of calculator use are all required.

COURSE FORMAT:

Lecture, lab and guided practice.

METHOD OF EVALUATION:

A minimum of four written exams, a lab component grade, and a comprehensive final exam. Homework and/or quizzes may be used in place of one exam or in addition to exams. The weight of each of these components of evaluation will be specified in the individual instructor's addendum to this syllabus. All out-of-class course credit, including take-home exams, home assignments, service-learning, etc. may not exceed 25% of the total course grade; thus, at least 75% of a student's grade must consist of exams given in the class or testing center, and no student may retake any of these exams.

ATTENDANCE POLICY:

Attendance is expected of all students. If a student is unable to attend, it is his/her responsibility to contact the instructor to obtain assignments. Please see the schedule of classes for the last day to withdraw.

RELIGIOUS HOLY DAYS:

In accordance with section 51.911 of the Texas Education Code, the college will allow a student who is absent from class for the observance of a religious holy day to take an examination or complete an assignment scheduled for that day within a reasonable time. A copy of the state rules and procedures regarding holy days and the form for notification of absence from each class under this provision are available from the Admissions and Records Office.

COURSE REPEAT POLICY:

All students may repeat this course only once after receiving a grade, including W. For example students who have taken this course twice have to choose a different course to take after two trials.

ADA STATEMENT:

It is the policy of Collin County Community College to provide reasonable and appropriate accommodations for individuals with documented disabilities. This College will adhere to all applicable Federal and State laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to contact the ACCESS Office (G-200) or 972.881.5898, (TDD 972.881.5950) in a timely manner if he/she desires to arrange for accommodations.

ACADEMIC ETHICS:

The college may initiate disciplinary proceedings against a student accused of scholastic dishonesty. Scholastic dishonesty includes, but is not limited to, statements, acts, or omissions related to applications for enrollment or the award of a degree, and/or the submission of material

as one's own work that is not one's own. Scholastic dishonesty may involve one or more of the following acts: cheating, plagiarism, collusion, and/or falsifying academic records.

Cheating is the willful giving or receiving of information in an unauthorized manner during an examination, illicitly obtaining examination questions in advance, using someone else's work for assignments as if it were one's own, copying computer disks or files, and any other dishonest means of attempting to fulfill the requirements of a course.

Plagiarism is the use of an author's words or ideas as if they were one's own without giving credit to the source, including, but not limited to, failure to acknowledge a direct quotation. Contact the Dean of Students at 972.881.5771 for the student disciplinary process and procedures or consult the CCCCD Student Handbook.

SPECIFIC REQUIREMENTS/COURSE CONTENT:

The student will be responsible for knowing all definition and statements of theorems for each section outlined in the following modules.

MODULE 1: INTEGRATION

The student will be able to:

1. Learn about antiderivatives and indefinite integrals.
2. Learn integration by substitution.
3. Learn about definite integral and area.
4. Evaluate definite integrals using the Fundamental Theorem of Calculus.
5. Find area between two curves.

MODULE 2: FURTHER TECHNIQUES AND APPLICATIONS OF INTEGRATION

The student will be able to:

1. Learn integration by parts.
2. Find volume and average value of a function.
3. Learn about continuous money flow.
4. Solve improper integrals.

MODULE 3: MULTIVARIABLE CALCULUS

The student will be able to:

1. Learn equations and functions of several variables, surfaces and level curves.
2. Find partial derivatives.
3. Find relative maxima and minima.
4. Learn Lagrange multipliers.
5. Learn the chain rule and approximation by total differential.
6. Learn double integrals.

MODULE 4: DIFFERENTIAL EQUATIONS

The student will be able to:

1. Find solutions of elementary and separable differential equations.
2. Solve linear first order differential equations.
3. Learn applications of differential equations.

MODULE 5: SEQUENCES AND SERIES

The student will be able to:

1. Learn about Geometric sequences.
2. Learn about annuities.
3. Learn about infinite series.