

Clarendon College

Clarendon, Texas
Fall 2011
Math 2413-101 and 2413L-101
Calculus I

Instructor: Linda Rowland

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Classroom Location: Clarendon College Room #101

Office Hours: M W 12:30 -1:00 and 3:00-3:25

T R 1:00-3:25

F 11:00-12:00 and 12:30-2:40

Time: T Th class 8- 9:20 am

MW Lab 8-8:55am

Course Description: Limits and continuity of functions, techniques of differentiation, applications of the derivative and anti-differentiation.

Lecture Hours: 3

Laboratory Hours: 1

Semester Hours: 4

Prerequisites: Math 1314, Math 1316, or consent of instructor.

Statement of Purpose:

This course is intended to prepare students for further studies in mathematics and science, to meet the math requirements for an associate degree, and be a transferable credit to another institution.

Required Instructional Materials:

Textbook: Finney, Weir, Hass, Giordano. Thomas' Calculus, 12th edition. Addison Wesley, 2010.

- **Supplies:** Textbook, paper, graph paper, pencil, **graphing scientific calculator**, and/or MathXL (Course ID # [XL00-K1EK-001Y-9TD2](#))

Methods of Instruction:

1. Answer questions and review previous assigned work.
2. Explanation of the concept and skills under consideration
3. Provide examples on the board with step by step explanation of the operations and principles being applied.
4. Comment when appropriate on the history, importance, and application of specific concepts.
5. Overheads and power point when appropriate.

Course Objectives

At the end of the course the student should be able to:

1. Apply the basic principles of Analytic Geometry.
2. Define and apply limits and continuity of functions.
3. Take and define the derivative of algebraic and trigonometric functions.
4. Sketch the curve and it's derivative and the line of tangency at a point.
5. Apply the derivative to certain application problems including differentials.
6. Solve and define integrals both definite and indefinite.

Exemplary Objectives:

1. To apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world situations.
2. To represent and evaluate basic mathematical information verbally, numerically, graphically, and symbolically.
3. To expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments.
4. To use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and determine the reasonableness of the results.
5. To interpret mathematical models such as formulas, graphs, tables and schematics, and draw inferences from them.
6. To recognize the limitations of mathematical and statistical models.
7. To develop the view that mathematics is an evolving discipline, interrelated with human culture, and understand its connections to other disciplines.

Grading Policies:

Daily work: 15% Homework is on Math XL

Lab/attendance 10% Lab will be held in classroom 203

Quizzes: 15% Quizzes will be on the Math XL

Tests: 25% Chapter tests are on the MathXL

Final: 35 % No early finals given unless proper paperwork has been signed by the Dean of Instruction.

IMPORTANT: NO GRADES WILL BE ACCEPTED BEFORE THE CLASS CONTRACT IS SIGNED. IF GRADES HAVE BEEN TAKEN BEFORE CLASS CONTRACT HAS BEEN SIGNED THEY WILL BE RECORDED AS ZEROS.

A simple average of the above will be used to determine the letter grade for the course based on the following:

90 – 100%	A
80 – 89%	B
70 – 79%	C
60 – 69%	D
Below a 60	F

A student's final grade will be made available through the Student Portal at www.clarendoncollege.edu

Student Academic Integrity:

Failure to comply with lawful direction of a classroom instructor is a disruption for all students enrolled in the class. Cheating violations include, but are not limited to: (1) obtaining an examination, classroom activity, or laboratory exercise by stealing or collusion; (2) discovering the content of an examination, classroom activity, laboratory exercise, or homework assignment before it is given; (3) using an unauthorized source of information during an examination, classroom activity, laboratory exercise, or homework assignment; (4) entering an office or building to obtain unfair advantage; (5) taking an examination for another person; (6) completing a classroom activity, laboratory exercise, homework assignment, or research paper for another person; (7) altering grade records; (8) using any unauthorized form of electronic communication device during an examination, classroom activity, or laboratory exercise; (9) Plagiarism. Plagiarism is the using, stating, offering, or reporting as one's own, an idea, expression, or production of another person without proper credit.

Disciplinary actions for cheating in a course are at the discretion of the individual instructor. The instructor of that course will file a report with the Dean of Students when a student is caught cheating in the course, whether it be a workforce or academic course. The report shall include the course, instructor, student's name, and the type of cheating involved. Students who are reported as cheating to the Dean of Students will receive an F for the class

Classroom Conduct:

I will show you the respect you deserve as a student. I, in return, expect respectful behavior from you.

Disrespectful behavior includes...

- **Arriving late.**
- **Leaving the room during class time.** Plan restroom visits before or after class—not during class. If special needs exist, please make prior arrangements.
- **Using electronic communication devices.** This includes cell phones, pagers, etc. These are not allowed during class time. If special needs exist, please make prior arrangements.
- **Sleeping in class.**

- **Talking in class.** Class time is not the time to visit with your fellow classmates. If you do, I will ask you to leave the classroom.
- **Using headphones.** If you do, I will ask you to leave the classroom.
- **Use of profane or inappropriate gestures and/or language.**
- Use of any tobacco product and spitting of sunflower seeds
- Improper dress such as showing too much skin or vulgar t-shirts.

Class Policies:

1. **Absences:** Please take class attendance seriously for it is mandatory. You are here to learn all you can learn, to build a body of knowledge to help you in your career and/or to give you satisfaction in the future. Students who are motivated come to class. ***You are responsible for the material covered in class (lecture or lab) even if you are absent. Students who have more than two unexcused absences will receive a zero for their lab/attendance grade.***
2. **Excused absences:** Make-ups for tests will be allowed *only* if absences are excused. Excused absences can result from...
 1. illness on the part of the student (must have note from doctor or Dean of Students)
 2. severe illness or death in your *immediate* (not extended) family (Dean of Students must be notified)
 3. college sanctioned extracurricular events
 4. unfavorable weather conditions that prevent students from reaching the college

If you are going to be absent, you should telephone or e-mail me *in advance* of the absence (leave a message if necessary). Even in emergencies, it usually is possible for you to get word to me about an absence. When you return, you must furnish proof of the reason for your absence if you wish for it to be excused. Proof is a doctor's note or an e-mail from the Dean or your coach explaining your absence.
3. **Make-up work: Late or unexcused work will not be accepted.**
4. **Scholastic Honesty:** I adhere to a strict policy regarding academic honesty. Anyone who is dishonest in any way will receive a zero on that assignment or exam with no opportunity to make up the zero and may be dropped from the course with a grade of F. Note that dishonest behavior includes both the act of copying someone else's work as well as allowing someone to copy your work. Both students are equally guilty and will be equally punished.
5. **Electronic Communication Devices: Please** turn them off before you enter class. Many people now have cell phones, pagers, etc. When these gizmos sound off in class, they distract everyone—you, I, and other students—and we all have to wait until someone turns off the device before class starts up again. It's not fair for anyone to distract and waste the time of a whole class this way. Consequently, each time an electronic device sounds off in class, one point will be subtracted from the owner's **final course average**. (That means, 5 times = one half a letter grade in the course.) Medical devices, such as insulin pumps, that have alarms are excused from this policy, but please inform me so that points won't be deducted erroneously.

American with Disabilities Act Statement: Clarendon College provides reasonable accommodations for persons with temporary or permanent disabilities. Should you require special accommodations, it is your responsibility to notify the Office of Student Services (806-874-3571 or 800-687-9737). We will then work with you to make whatever accommodations we need to make.

Dropping a Course:

A student who is enrolled in a developmental course for TSI purposes may not drop his/her only developmental course unless the student completely withdraws from the college. A student may drop any other course with a grade of "W" any time after the census date for the semester and on or before the end of the 12th week of a long semester, or on or before the last day to drop a class of a term as designated in the college calendar. The request for permission to drop a course is initiated by the student by procuring a drop form from the Office of Student Services. (Refer to other policies concerning this issue in the current college catalog online.) Remember, a student is only allowed to drop the same class twice before he/she will be charged triple the tuition amount for taking the class a third time or more.

Important dates:	September 9 th	Last day to Register and/or Add/drop
	November 18 th	Last day to drop with a "W"
	November 23-27 th	Thanksgiving Holiday
	December 12-15 th	Final Exams

Withdrawal from College:

Withdrawal: If you decide that you are unable to complete this course or that it will be impossible to complete the course with a passing grade, you may drop the course and receive a "W" on your transcript instead. Withdrawal from a course is a formal procedure that you must initiate. If you do not go through the formal withdrawal procedure, you will receive a

grade of an "F" on your transcript. A student is permitted to drop a course if he/she obtains an official drop slip from the office and has the instructor sign the slip before the 12th class week.

Remember, a student is only allowed to drop the same class twice before he/she will be charged triple the tuition amount for taking the class a third time or more. Furthermore, beginning with the Fall 2007 semester, students in Texas may only drop a total of 6 courses throughout their entire undergraduate career. After the 6, he/she will no longer be able to withdraw from any classes.

Course Schedule/Outline: All homework assignments and chapter test are on your "MathXL. **Check it daily!!!**

Chapter 1: Functions: due 9/15/2011

- 1.1 Functions and their graphs:
- 1.2 Combining Functions: Shifting and Scaling Graphs:
- 1.3 Trigonometric Functions:
- 1.4 Graphing with calculators

Chapter 2: Limits and Continuity: due 9/30/2011

- 2.1 Rates of Change and Limits:
- 2.2 Calculating Limits using the Limit Laws
- 2.3 The precise Definition of a Limit: †
- 2.4 One-sided limits and Limits at Infinity
- 2.5 Continuity
- 2.6 Limits involving Infinity: Asymptotes of Graphs

Chapter 3: Derivatives: due 10/21/2011

- 3.1 Tangents and derivatives at a point
- 3.2 Derivative as a function
- 3.3 *Differential Rules*
- 3.4 *The Derivative as a Rate of Change*
- 3.5 *Derivatives of Trigonometric Functions*
- 3.6 *The Chain Rule and Parametric Equation*
- 3.7 *Implicit Differentiation*
- 3.9 *Related Rates*
- 3.10 *Linearization and Differential*

Chapter 4: Application of Derivatives: Due 11/8/2011

- 4.1 Extreme Values of Functions
- 4.2 Mean Value Theorem
- 4.3 Monotonic Functions and the 1st derivative
- 4.4 Concavity and Curve Sketching
- 4.5 Applied Optimizations
- 4.6 Newton's Law
- 4.7 Antiderivatives

Chapter 5: Integration; due 11/26/2011

- 5.1 Estimating with Finite Sums
- 5.2 Sigma Notation and Limits of Finite Sums
- 5.3 The Definite Integral
- 5.4 The Fundamental Theorem of Calculus
- 5.5 Indefinite Integrals and the Substitution Rule
- 5.6 Substitution and Area between Curves

Chapter 6: applications of Definite Integrals: due 12/9/2011

- 6.1 Volumes using cross-sections
- 6.2 Volumes using cylindrical shells
- 6.3 Arc Length
- 6.4 Areas of Surfaces of Revolution
- 6.5 Work and Fluid Forces
- 6.6 Moments and Centers of Mass

Final Exam will be given during the week of December 12th thru 15th. This will be posted by the Dean of Instruction. If you need to take the Exam early then you must fill out the appropriate paper work and have it signed by the Dean.

Course outline and dates are subject to change at discretion of Instructor.