Math 121 Section 5615 - Calculus I
Fall 2006

Professor: Dr. Jess Lenarz
Meeting Time & Place: 10:30 am - 11:40 am MWF Ivers 214
Office: Ivers 234E
Office Hours: Monday & Wednesday 2:30-4:00,
Tuesday 10:30-12:00, 2:00-4:00;
other times by discovery or appointment
Phone: 299-3347
email: lenarz@cord.edu
Website: http:\\www.cord.edu\faculty\lenarz\Math121\F06\5615\index.htm

Text: *Calculus, Early Transcendentals*, 5^{th} ed. by James Stewart. We will cover through Chapter 5.

Course Objectives:

- Review and (re)learn the fundamentals of graphing, algebra, and trigonometry.
- Study the concept of functions and limits, from both an intuitive and computational perspective.
- Learn the rules and techniques of differentiation and be able to explain the concept of the derivative.
- Be able to use differentiation in applied and more purely mathematical contexts, including various word problems, relative and absolute extrema, and rectilinear motion.
- Understand the concept of integration and be able to evaluate elementary integrals.
- Acquire the skill of studying and, to some degree, learning the assigned reading material before class, so that you can be a more active and constructive learner and participant in class discussion. (This is one of the differences between college-level versus high school-level work.)
- To prepare the student for courses that have Calculus I as a prerequisite.

Free Tutoring: The Mathematics Department provides a Calculus tutor Sunday, Tuesday, and Thursday nights in Ivers 218 from 5 pm to 9 pm. The Academic Enhancement center (AEC) in Lower Level Fjelstad also has Math tutors Monday through Thursday 3 pm to 5 pm and 7 pm to 9 pm, and Sunday night 7 pm to 9 pm. For more information visit the AEC homepage: http://student.cord.edu/dept/aec/index.shtml

Grading: Final grades will be determined by the following components:

Component	%	Date
Self-evaluation	5 %	Mid-semester
Instructor-evaluation	5 %	
Sports Day	10 %	Weekly-ish
HW/Quizzes	20 %	Every class
Exam 1	15 %	October 4
Exam 2	15 %	November 1
Exam 3	15 %	November 22
Final Exam	15 %	December 15

Grades will be based on the following scale:

Percentage	Grade	Percentage	Grade
$93-100$	A	$73-76$	C
$90-92$	A-	$70-72$	C-
$87-89$	B+	$67-69$	D+
$83-86$	B	$63-66$	D
$80-82$	B-	$60-62$	D-
$77-79$	C+	$0-59$	F

Self-evaluation: All students will be required to submit a self-evaluation at mid-semester. You should communicate what mid-semester grade you should receive and why. I will grade these based on your justification for your grade. This is designed to be an exercise to help you reflect on your performance in class and how you might improve during the remainder of the semester.

Sports Day: On designated days, we will work problems in class in a game format. The class will be divided into two teams which will send one representative to the board during each round. The representatives will take turns selecting problems from a deck of prepared problems. The topic and point value will be visible, but not the actual question. The two representatives will then compete to correctly answer the question at the board. The first to arrive at the correct answer is awarded the points for the problem. The other person at the board receives ten (10) points less than the stated value of the problem, to a minimum of zero points. Problems are typically worth 5, 10, 15, 20 and 25 points, with harder problems

being worth more points. At the end of the class period, the class with the higher total is awarded ten (10) points each. See webpage for detailed rules. Each student is required to accumulate 100 points over the semester. Any points over 100 will be applied as extra credit toward the homework grade.

Quizzes & Homework: Suggested homework problems for each section will be posted on the webpage. The answers to all odd-numbered problems are in the back of the book. I encourage you to work together outside of class and to see the Calculus tutor in Ivers 218. Every class period (except exam days) will begin with a quiz on the section from the previous lecture or the collection of problems assigned from the previous lecture.

Exams: There will be 3 in-class exams given during the course as well as a comprehensive final exam. Each in-class exam will be 70 minutes long. Attendance is required for exams. If you can not attend for some reason, you must contact me **before** the exam to schedule a makeup exam.

Calculators: Calculators will be prohibited for certain quizzes or exams. You may use a calculator at any other time, but exams will be written in such a way that a calculator gives no unfair advantage.

Partial Credit: Partial credit will be awarded. If your final answer in incorrect, but your thought processes were correct in general, you will receive some credit. In a similar manner, if no thought processes are indicated and your answer is correct, you will not receive full credit. YOU MUST ALWAYS SHOW YOUR WORK!

Academic Integrity: All students are expected to follow the policies set forth in the Academic Integrity section of the catalog. Cheating will NOT be tolerated. If you are caught cheating, you will receive a zero for that quiz, exam or assignment.

Special Accommodations: Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact Monica Kersting in the Office of Disability Services at 299-3514 in Academy 106 to coordinate reasonable accommodations for students with documented disabilities.

Attendance: Students are expected to attend and participate in class. If you aren't in class, you won't learn anything! If you must miss class due to illness, please call me and let me know. If you must miss class due to a college sponsored activity, please notify me in advance. You may be required to do makeup work for the time you are gone. A general rule of thumb is no more than three absences.

Classroom Behavior: Please respect your fellow classmates. This means not distracting other students during class with ringing cell phones, talking on the phone, talking with your neighbor, etc. I do not mind if you eat or drink during class, just clean up after yourself.

Changes: Components of this syllabus are subject to change. If changes need to be made in the syllabus, students will be involved in the decision process.

Tentative Schedule

Date	Section
Sept. 1	1.1 & 1.2 - Functions
Sept. 4	1.3 & 1.4 - Transformations & Combinations of Functions
Sept. 6	1.5 & 1.6 - Exponentials, Inverses, & Logs
Sept. 8	Sports Day
Sept. 11	Fall Symposium - No Class
Sept. 13	2.1 & 2.2 - Tangent & Velocity, Limits
Sept. 15	2.3 - Calculating Limits
Sept. 18	2.5 - Continuity
Sept. 20	2.6 - Limits at Infinity & Horizontal Asymptotes
Sept. 22	Sports Day
Sept. 25	2.7 - Rates of Change
Sept. 27	2.8 - Definition of Derivative
Sept. 29	2.9 - Derivative as a Function
Oct. 2	Review & Sports Day
Oct. 4	Exam 1 (Chapters 1 & 2)
Oct. 6	3.1 - Derivatives
Oct. 9	3.2 - Product, Quotient Rules
Oct. 11	3.4 - Trig Derivatives
Oct. 13	Sports Day
Oct. 16	3.5 - Chain Rule
Oct. 18	3.6 - Implicit Differentiation, Derivatives of Inverse Trig
Oct. 20	Fall Break
Oct. 23	Fall Break
Oct. 25	3.7 - Higher Derivatives
Oct. 27	3.8 - Log Derivatives
Oct. 30	3.10 - Related Rates
Nov. 1	Review & Sports Day
Nov. 3	Exam 2
Nov. 6	4.1 - Max/Min Values
Nov. 8	4.3 - First & Second Derivative Tests
Nov. 10	Sports Day
Nov. 13	4.4 - L'Hospital's Rule
Nov. 15	4.7 - Optimization
Nov. 17	4.10 - Antiderivatives

Date	Section
Nov. 20	Review & Sports Day
Nov. 22	Exam 3
Nov. 24	Thanksgiving Break - No Class
Nov. 27	5.1 - Areas & Distances
Nov. 29	5.2 & 5.3 - Definite Integrals & Fundamental Theorem of Calculus
Dec. 1	Sports Day
Dec. 4	5.4 - Indefinite Integrals
Dec. 6	5.5 - Substitution Rule
Dec. 8	Sports Day
Dec. 11	Review & Sports Day
Dec. 15	Final Exam 8:30 am - 10:30 am