

Math 121 Section 5614 - Calculus I

Spring 2007

Professor: Dr. Jess Lenarz

Meeting Time & Place: 11:50 am - 1:00 pm MWF Ivers 218

Office: Ivers 234E

Office Hours: Monday & Wednesday 10:30-11:40, 2:30-4:00;
Tuesday 10:30-12:00, 2:00-4:00;
Thursday & Friday 10:30-11:40;
other times by discovery or appointment

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Website: <http://www.cord.edu/faculty/lenarz/Math121/S07/index.htm>

Text: *Calculus, Early Transcendentals*, 5th 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 225 from 7 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 %	
HW/Quizzes	30 %	Every class
Exam 1	15 %	February 7
Exam 2	15 %	March 16
Exam 3	15 %	April 4
Final Exam	15 %	April 27

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.

Quizzes & Homework: 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 225. 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. You will be allowed to turn in up to three (3) late homework assignments without penalty. They must be turned in within one week of the due date or before the next exam, whichever comes first. There will be no makeup quizzes.

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. If you are ill the day of the exam, you must give me a doctor's note 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. Please see me if you need help selecting a calculator.

Partial Credit: Partial credit will be awarded. If your final answer is 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 see 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
Jan. 8	Syllabus and Review Homework (Appendices A & B)
Jan. 10	Appendix D, 1.1, 1.2, & 1.3 - Trig Review & Functions
Jan. 12	1.5 & 1.6 - Exponentials & Inverses
Jan. 15	1.6 - Logs
Jan. 17	2.1 & 2.2 - Tangent & Velocity, Limits
Jan. 19	2.3 - Calculating Limits
Jan. 22	2.5 - Continuity
Jan. 24	2.6 - Limits at Infinity & Horizontal Asymptotes
Jan. 26	2.7 - Rates of Change
Jan. 29	2.8 - Definition of Derivative
Jan. 31	2.9 - Derivative as a Function
Feb. 2	Problem/Catch-up Day
Feb. 5	Review
Feb. 7	Exam 1 (Chapters 1 & 2)
Feb. 9	3.1 - Derivatives
Feb. 12	3.2 - Product, Quotient Rules
Feb. 14	3.3 - Rates of Change in the Sciences
Feb. 16	3.4 - Trig Derivatives
Feb. 19	3.5 - Chain Rule
Feb. 21	3.6 - Implicit Differentiation, Derivatives of Inverse Trig
Feb. 23	3.7 - Higher Derivatives
Feb. 26	Spring Break
Feb. 28	Spring Break
Mar. 2	Spring Break
Mar. 5	3.8 - Log Derivatives
Mar. 7	3.10 - Related Rates
Mar. 9	3.10 - Related Rates
Mar. 12	Problem/Catch-up Day
Mar. 14	Review
Mar. 16	Exam 2
Mar. 19	4.1 - Max/Min Values
Mar. 21	4.3 - First & Second Derivative Tests
Mar. 23	4.4 - L'Hospital's Rule
Mar. 26	4.5 - Summary of Curve Sketching
Mar. 28	4.7 - Optimization
Mar. 30	4.7 - Optimization
Apr. 2	Review
Apr. 4	Exam 3
Apr. 6	Easter Break

Date	Section
Apr. 9	Easter Break
Apr. 11	4.10 - Antiderivatives
Apr. 13	5.1 - Areas & Distances
Apr. 16	5.2 & 5.3 - Definite Integrals & Fundamental Theorem of Calculus
Apr. 18	5.4 - Indefinite Integrals
Apr. 20	5.5 - Substitution Rule
Apr. 23	Review
Apr. 27	Final Exam 11:00 am - 1:00 pm