

**ANALYTICAL GEOMETRY AND CALCULUS I
MATH 220 - SPRING 2009**

INSTRUCTOR: DAN VOLOK

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Text. Calculus: Early Transcendentals (6th edition) by James Stewart.

Procedure. This course is organized along the lecture-recitation method. Each week you are supposed to attend two lectures (Mondays and Wednesdays) and two recitation classes (Tuesdays and Thursdays). The material to be covered in each lecture along with the corresponding exercise set is listed below. **You should read all the assigned material before each lecture and try to solve the corresponding exercises before the next recitation class.** You should eventually have all of the assigned exercises solved.

Grading. Your recitation instructor will administer your exams and determine your final letter grade. You may earn 712 points in this course: 100 points for each of the three midterm exams (which will take place on Thursdays, Feb. 12, Mar. 5 and Apr. 16, 7:05-8:20pm); 200 points for the final exam; 112 points for homework and 100 points for participation in recitation classes. Your recitation instructor will explain how exactly your recitation grade will be determined. Letter grades will be assigned for each exam but these should be viewed only as indication of your progress.

Homework. Homework is due each Monday, starting Jan. 26, at 5pm in the homework boxes next to Cardwell 120. The assignments and due dates are listed below. Write your name and your **recitation instructor's** name on the top of the front page and staple your homework. Place the homework in the box labeled with your **recitation instructor's** name and your recitation day and time. **Write eligibly and show all work!**

Missed exams. If you miss or expect to miss a midterm exam for a legitimate reason (such as illness), notify your recitation instructor as soon as possible. If your recitation instructor excuses your absence from a midterm exam, your grade for that exam will be a weighted average of your grades for the other midterm exams. If your recitation instructor does not excuse your absence from a midterm exam, your grade for that exam will be zero. **There will be no make up exams.** If you miss more than one midterm exam or the final exam for **verifiable** personal emergency reasons then it is possible to receive the "Incomplete" grade. In that case you will need to work out the details with your recitation instructor **before** final grades are given.

Academic dishonesty. Plagiarism and cheating are serious offenses and may be punishable by failure on the exam, failure in the course and/or expulsion from the University.

Disabilities. If you have any condition such as a physical or learning disability which may prevent you from carrying out the work as I have outlined it or require academic accommodations, let me know within the first two weeks of the class.

Help. Your recitation instructor will announce office hours during which you may seek help. In addition, help sessions are held Monday through Thursday in Cardwell Hall (check the bulletin board across from Cardwell 138 for schedule). Individual tutors for the course may be located through the Math Department or numerous services organizations on campus.

COURSE SCHEDULE

Date	Topics	Sections	Homework problems	Date Due
Jan. 21	Elementary Functions	1.3 1.5	3,6,11,16,31,36 11,12,15,18,19,25	Jan. 26
Jan. 26	Inverse Functions	1.6	7,16,22,39,48,57,60,71	Feb. 2
Jan. 28	Limits and Vertical Asymptotes	2.2	4,6,26,29	
Feb. 2	Laws of Limits	2.3	12,15,20,22,23,29	Feb. 9
Feb. 4	Continuity and Horizontal Asymptotes	2.5 2.6	12,19,35,48 20,25	
Feb. 9	Definition of Derivative	2.7 2.8	6,15 3,17,21,24	
Feb. 11	Review			7:05-8:20pm
Feb. 12	1st Midterm Exam			
Feb. 16	Rules of Differentiation	3.1 3.2	8,29,32 6,21,28	Feb. 23
Feb. 18	Trigonometric Limits and Derivatives	3.3	2,6,11,23,40,48	
Feb. 23	Chain Rule	3.4	4,11,12,21,28	Mar. 2
Feb. 25	Implicit Differentiation	3.5 3.6	5,11,26 4,21,38,42	
Mar. 2	Applications of Derivatives	3.7	8,9,14,15,20,29	
Mar. 4	Review			7:05-8:20pm
Mar. 5	2nd Midterm Exam			
Mar. 9	Exponential Growth and Decay	3.8	4,8,14,16,20	Mar. 23
Mar. 11	Related Rates	3.9	7,12,13,14,16,23,28	
Mar. 23	Linear Approximation	3.10	6,12,13,20	Mar. 30
	Newton's Method	4.8	12,15	
Mar. 25	Absolute and Local Max/Min	4.1	6,21,32,34,51,60	
Mar. 30	Mean Value Theorem	4.2	3,6,16,18,34	Apr. 6
Apr. 1	Concavity	4.3	6,10,12,20,22,33,39	
Apr. 6	Curve Sketching	4.5	6,10,13,21,34,41	Apr. 13
Apr. 8	Optimization Problems	4.7	11,14,32,38,56,58	
Apr. 13	L'Hospital's Rule	4.4	9,15,20,25,31,39	Apr. 20
Apr. 15	Review			7:05-8:20pm
Apr. 16	3rd Midterm Exam			
Apr. 20	Antiderivatives	4.9	5,6,25,34,38,41	Apr. 27
Apr. 22	Definite Integrals	5.1 5.2	4,12 12,18,26,30	
Apr. 27	Fundamental Theorem of Calculus	5.3	8,12,14	
	Indefinite Integrals	5.4	3,6,20,27	May, 4
Apr. 29	Substitution Method	5.5	14,23,54,65	
May, 4	Review			
May, 6	Review			