MATH 106 **SYLLABUS** **SPRING SEMESTER 2006**

Text: *Calculus*, 2nd Edition, by Smith and Minton

Calculator: You are required to have a graphing calculator for this course. The TI-85 and TI-86 are recommended.

Scheduling: The reverse side of this syllabus includes a tentative schedule of assignments and exams. These details are presented as a guide. Your instructor may change the dates for each assignment and/or exam, modify the exercise list, and/or add assignments. It is your responsibility to keep track of the course details and schedule for your section.

Reading: You are expected to do the reading from the appropriate sections BEFORE coming to the class meeting in which the topic is scheduled.

Exercises: You are expected to work the assigned exercises after the corresponding material is presented in class, and BEFORE the next class meeting (lecture or recitation).

Projects and Other Assignments: This course will include a group project. Your instructor will decide on the specific requirements for your project report. There may also be other graded assignments, at the discretion of your instructor.

Math Resource Center: Students in Math 106 are encouraged to use the Student Resource Center (MRC) in **Avery 13B** if they have questions related to this course, or as a place to meet and discuss group projects. The hours for the MRC are 12:30-8:30 p.m. Monday through Thursday, 12:30-2:30 p.m. on Friday, and 1:00-5:00 p.m. on Sunday.

Math Placement Policy: Students who take Math 106 must satisfy the requirements of the *Math Placement Policy*. To comply with this policy you must satisfy ONE of the following:

i) You have passed UNL's Math 102 or 103 (or the equivalent course at UNO or UNK) with a grade of C, P or better.

ii) You have passed the prerequisite courses in high school or at another college and have a qualifying score on the Math Placement Exam after March, 2005.

iii) You have a grade of D or better in this course from UNL, UNO, or UNK.

The Math Placement Exam can be taken online at the College Testing Center (Burnett 127). For details, see the Math Department web site (http://www.math.unl.edu/pi/studentResources/mathPlacementExam).

GATEWAY EXAM: This exam consists of 10 questions in which you are asked to carry out calculations without using calculators, notes, or tables. You must get at least 8 questions completely right to pass. If you do not pass the Gateway Exam when it is first administered, you must go to the **Arts and Sciences College Testing Center** (Burnett 127) or the **Math Department Computer Lab** (Avery 18) for a retake (picture ID required). You may attempt the electronic version of the Gateway Exam at most once a day. The deadline for passing the Gateway Exam is **March 31, 2006**.

Special Dates:

January 20 is the last day to withdraw without the course appearing on your transcript.
March 3 is the last day to change your grade option to or from Pass/No Pass.
March 31 is the last day to pass the Gateway exam.
April 7 is the last day to withdraw from the course with a grade of W.

The Final Exam is on Wednesday, May 3, 2006 from 6:00 to 8:00 pm. The room will be announced during the final week of class. Students are expected to arrange their personal and work schedule to allow them to take the exam at the scheduled time. Students who have conflicting exam schedules may be allowed to take an alternate final, which is always given after the regularly scheduled final. No student will be allowed to take the final exam early.

Departmental grading appeals policy: Students who believe their academic evaluation has been prejudiced or capricious have recourse for appeals to (in order) the instructor, the departmental chair, the departmental appeals committee, and the college appeals committee.

TENTATIVE SCHEDULE (note that some dates have two assignments)

Date			Section	Exercises
Jan 9	M	0.8	Preview of Calculus	P76: 3,4,6,9,14,15,18,23,33,35,36,43; p20: 53,58,59-64
11	W	0.5	Trigonometric Functions	P48: 10,11,14,19,27,32,36,37,44,47,51,54,59,60,65
13	F	0.6	Exp & Log Functions	P61: 11,17,19,20,22,38,41,43,44,48,49,54,55,67,73
18	W	0.7	Transformations of Functions	P70: 6,9,13,15,17,18,25,35,37,39,41,45,49,51
20	F	1.1	The Concept of Limit	P89: 5,6,8,9,12,13,15,17,19,20,28,29,31
23	M	1.2	Computation of Limits	P100: 9,13,14,15,19,23,27,29,35,39,42,51,59,63
25	W	1.3	Continuity and Its Consequences	P111: 5-10,12,13,19,21,26,31,33,37,44,56
27	F	1.4	Limits Involving Infinity	P122: 5,6,7,8,10,13,14,15,20,22,25,28,35,38,43,47,51,56
30	M	2.1	Tangent Lines and Velocity	P160: 5-10,13,16,17,23,33,34,35,40,45
Feb 1	W	2.2	The Derivative	P173: 7,8,10,11,13,16,35-38,43,46,53,54,56
3	F	2.2	The Derivative	P173: 21-34,48; p183: 7,13,17,21,23,25,29,32
6	M	2.3	The Power Rule	P183: 5,15,21,26,30,32,39,41,45,46,48,51,52,56
8	W		review for exam	
9	**R**		**EXAM 1**	
10	F	2.4	The Product and Quotient Rules	P194: 5,8,9,10,11,15,19,23,44,47,48,49
13	M	2.5	Derivatives of Trig Functions	P203: 9,12,13,14,17,19,23,24,31,32,37,42,45,49
15	W	2.7	The Chain Rule	P218: 6,8,9,11,12,13,17,27,29,33,34,50; Handout Sheet
17	F	2.6	Exp and Log Functions	P211: 8,10,17,18,20,22; p218: 23,26,32,43,57; p549: 4,16,21
20	M	2.8	Implicit Differentiation	P227: 5,8,9,12,13,15,19,21,25,29,33,45,52,54,55
22	W	2.9	Mean Value Theorem	P236: 7,9,10,25,28,31
23	R		**PROJECT ASSIGNED**	
24	F	6.7 AND 6.8		P535: 21,23,27,28; P541: 3,6,7,11,14,15
27	M	3.1	L'Hôpital's Rule, Linear Approximtn	P249: 5,7,9,15,16,21,22,29,34,35,37,48,51,53;
Mar 1	W	7.6	L'Hôpital's Rule	P603: 7,12,13,16,23,29
2	**R**		**GATEWAY EXAM**	
3	F	3.3	Maximum and Minimum Values	P267: 6,7,16,34,35,39,40,41,42,43
6	M	3.3	Maximum and Minimum Values	P267: 18,21,24,29,30,53,55,56,62
8	W	3.4	Increasing and Decreasing	P276: 5,8,13,14,15,20,23,25,27,30,36,39,45,54,56,59
10	F	3.5	Concavity	P284: 5-8,10,11,13,17,19,24,25,43,44,47,49,52,57,58
20	M	3.6	Overview of Curve Sketching	P296: 5,6,9,16,19,24,25,32,33,35,44,49,50,60
22	W		review for exam	
23	**R**		**EXAM 2**	
24	F	3.7	Optimization	P306: 5,6,8,11,15,20,31
27	M	3.7	Optimization	P306: 21,26,28,30,35,41
29	W	4.2	Sums and Sigma Notation	P340: 9,11,12,16,17,24,29,31,42
31	F	4.3	Area	P348: 3,9,15,16,21,22,30,32,33,35,36,39,41-44,47,49
Apr 3	M	4.4	The Definite Integral	P361: 6,9,19,22,23,28,31-34,36,37,40,49-52,58,62,63,68
5	W	4.7	Numerical Integration	P395: 9,11,14,18,22,24,33,37,40,41ab,42ab,43ab,44ab,51
6	R		**PROJECT DUE**	
7	F	4.1	Antiderivatives	
10	M	4.1	Antiderivatives	P331: 8,9,14,15,19,22,25,26,29,31,35,36,37
12	W	5.5	Projectile Motion	P331: 41-52,55,58,59,70,71-73; P449: 9,10,13,14,23,25,26,31,36,37,43,48
14	F	4.5	Fundamental Theorem	P371: 5,9,16,19,26,31-40,51,52,53
17	M	4.5	Fundamental Theorem	P371: 42,43,46,56,57,58,61,78,79,82,83,84,85
19	W		review for exam	
20	**R**		**EXAM 3**	
21	F	review		
24	M	review		
26	W	review		
28	F	review		
May 3	M	**UNIT FINAL EXAM**		**6:00-8:00P (Room To Be Announced)**