

- Text** University Calculus, by Hass, Weir, and Thomas, ISBN: 0-321-35014-6.
- ACE Outcome 3** This course satisfies ACE Outcome 3. You will apply mathematical reasoning and computations to draw conclusions, solve problems, and learn to check to see if your answer is reasonable. Your instructor will provide examples, you will discuss them in class, and you will practice with numerous homework problems. The exams will test how well you have mastered the material.
- Calculator** A graphing calculator is a useful tool for this course, and the TI-83, TI-84 and TI-86 are recommended. However, no calculator having a built-in computer algebra system (CAS) will be permitted during any of the exams or quizzes. Examples of CAS calculators include the TI-89, TI-92, TI-Nspire, HP-40, HP-41, Casio ALGEBRA FX 2.0, Casio ClassPad 300 and 330.
- Scheduling** A tentative schedule is included in this syllabus. These details are presented as a guide. Your instructor may change the dates for exams, and change the questions or the dates for assignments. It is your responsibility to keep track of the course details and schedule for your section.
- Reading** Please do the reading from the sections before coming to class each day. Your instructor will be planning class activities assuming you have done the reading.
- Mathematics Resource Center** Students in Math 106 are encouraged to use the Mathematics 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 MTWR 12:30–8:30 pm, Fri 12:30–2:30 pm, and Sun 1:00–5:00 pm.
- Math Placement** Students who take Math 106 must satisfy the requirements of the Math Placement Policy. You satisfy the policy if you satisfy one of the following conditions:
- 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.
  - You have passed the prerequisite courses in high school or at another college and have a qualifying score on the Math Placement Exam dated after May 2009. The Math Placement Exam will be given online at the College Testing Center (Burnett 127). For more details ask at the math office (Avery 203), or check the department web site (<http://www.math.unl.edu/resources/undergraduate/mpe/>).
  - You have a grade of D, D+, or C– in this course from UNL, UNO, or UNK.
- Gateway Exam** This exam will cover techniques of differentiation. To get any credit on the Gateway Exam you must demonstrate a high level of proficiency and accuracy. The exam will consist of 10 questions. Of these you must get at least 8 completely correct to pass the exam. No partial credit will be given. You will not be allowed to use calculators or notes. If you do not pass the Gateway exam when it is first administered (Tuesday March 1st) you must go to the College Testing Center for a computer administered retake. (A picture ID will be required.) You may attempt the electronic version of the Gateway Exam at most once a day. The deadline for passing the Gateway Exam is Friday April 1st.
- Final Exam** 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. **The final exam is on Tuesday May 3rd, from 6-8 pm.** The room will be announced during the final week of class.

Date	Section	Assignment
January 10 M	1.3	Trigonometric functions
	1.4	Exponential functions
	12 W	2.1 Rates of change and tangents to curves
14 F	2.2	Limit of a function and limit laws
<b>January 17: Martin Luther King Day</b>		
January 19 W	2.4	One-sided limits and limits at infinity
21 F	2.5	Infinite limits and vertical asymptotes
<b>January 21 is the last day to withdraw without the course appearing on your transcript.</b>		
January 24 M	2.6	Continuity
26 W	2.7	Tangents and derivatives at a point
28 F	3.1	The derivative as a function

January 31	M	3.1	The derivative as a function	27-30, 33, 43
		3.2	Polynomials and exponentials	1, 3, 5, 7, 11
February 2	W	3.2	Products and quotients	13-21 (odd), 24, 25, 27, 33, 37, 39, 43, 45
4	F	3.3	The derivative as a rate of change	1, 3, 7, 15, 18, 25
February 7	M	3.4	Derivatives of trigonometric functions	1, 3, 5, 7, 9, 13, 17, 23, 31
9	W	3.5	The chain rule and parametric curves	1, 3, 5, 9, 11, 17-33 (odd)
11	F	3.5	The chain rule and parametric curves	35-41 (odd), 67, 68, 81, 83, 85, 89, 101
February 14	M	3.6	Implicit differentiation	1, 3, 5, 7, 11, 19, 21, 25, 31, 35, 39
16	W		Review	
17	R		<b>Exam 1</b>	
18	F	1.5	Inverse functions and logarithms	1-6, 7, 13, 15, 17, 25, 41, 45
February 21	M	3.7	Derivatives of inverse functions	11-27 (odd), 41, 43, 45, 48, 49, 51, 55, 56, 87
23	W	3.8	Inverse trigonometric functions	1, 3, 7, 13, 21, 23, 29, 33, 41
25	F	3.9	Related rates	1, 3, 7, 10, 11, 13, 15, 17, 18, 21, 22, 23
February 28	M	3.10	Linearization and differentials	1, 3, 5, 7, 13, 19, 21, 27, 31, 33, 41
March 1	T		<b>Gateway Exam</b>	
2	W	4.1	Extreme values of functions	1, 3, 5, 7-10, 15, 17, 21, 31, 35, 39, 45, 51
4	F	4.2	The mean value theorem	1, 2, 3, 5, 10, 15, 27, 29, 30
<b>March 4 is the last day to change your grade option to or from Pass/No Pass.</b>				
March 7	M	4.3	The first derivative test	1, 3, 5, 9, 13, 17, 25, 39, 47, 49
9	W	4.4	Concavity and curve sketching	1, 2, 5, 9, 11, 15, 17, 25
11	F	4.5	Applied optimization	2, 3, 4, 5, 7, 8, 9, 11
March 14	M	4.5	Applied optimization	12, 14, 20, 33
15	T		<b>Project Assigned</b>	
16	W	4.6	L'Hôpital's rule	1, 5, 7, 9, 15, 19, 23, 25, 33, 35, 45, 57, 61, 63
18	F	4.8	Antiderivatives	1-55 (odd); 71, 75, 83
<b>March 20-March 27: Spring Break</b>				
March 28	M		Review	
29	T		<b>Exam 2</b>	
30	W	5.1	Estimating with finite sums	1b, 3b, 4a, 7, 11, 19
April 1	F	5.2	Limits of finite sums	1, 5, 7, 8, 11, 15, 17, 20, 23, 29
<b>April 1 is the last day to take the Gateway Exam.</b>				
April 4	M	5.3	The definite integral	1, 3, 9, 11, 15, 17, 19, 43, 47
6	W	5.4	Fundamental theorem of calculus	1-31 (odd), 35, 41, 43, 51, 57
8	F	5.5	Substitution in integrals	1, 5, 7, 9, 13, 17, 21, 25, 29, 33, 37, 59
<b>April 8 is the last day you can withdraw from the class.</b>				
April 11	M	5.6	Substitution in integrals	1, 3, 5, 9, 11, 27, 31, 41, 47, 51, 57, 63, 65, 75
12	T		<b>Project Due</b>	
13	W	6.1	Volumes by slicing	1, 3, 5, 19, 21, 29, 49
15	F	6.2	Volumes by shells	1, 3, 5, 7, 11, 15, 25, 27
April 18	M		Review	
19	T		<b>Exam 3</b>	
20	W	6.3	Lengths of curves	1, 3, 5, 9, 15
22	F		Catch up	
April 25	M		Catch up	
27	W		Review	
29	F		Review	

**Departmental Grading Appeals Policy** The Department of Mathematics does not tolerate discrimination or harassment on the basis of race, gender, religion, or sexual orientation. If you believe you have been subject to such discrimination or harassment, in this or any math course, please contact the department. If, for this or any other reason, you believe your grade was assigned incorrectly or capriciously, appeals may be made to (in order) the instructor, the department chair, the departmental grading appeals committee, the college grading appeals committee, and the university grading appeals committee.