

**CHANGE:** Exam 3 is now on Wednesday, November 28th from 8:15 to 9:45

Text *Calculus: Single and Multivariable, Sixth Edition* Hughes-Hallett, *et al.*  
*Math 106 Course Packet*

ACE Outcome 3: This course satisfies ACE Outcome 3: “Use mathematical, computational, statistical, or formal reasoning (including reasoning based on principles of logic) to solve problems, draw inferences, and determine reasonableness.” 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’ve mastered the material. The final exam will be the primary means of assessing your achievement of ACE Outcome 3.

Placement: You may take Math 106 if you satisfy one of the following conditions:

1. You passed Math 102 or 103 (or an equivalent college-level course) with a grade of P, C or better.
2. You took Math 106 from UNL or the equivalent course from UNO or UNK.
3. You passed the prerequisite courses in high school and have a qualifying score on the Math Placement Exam.

Scheduling: A tentative schedule is included in this syllabus, as a guide. Your instructor will notify you of any changes. You are responsible for tracking these changes.

Motivation: This is a challenging class and you need to put in considerable time and effort to succeed, even if you have taken calculus before. Keep in mind that this is a five credit class. The typical rule for a college-level course is two to three hours outside of class for each credit hour, which means that you will need to devote *10 to 15 hours every week outside of class studying calculus!* Your instructor and recitation leader will do their best to help you stay motivated, but you must take responsibility for your own learning.

Policy Sheet: This syllabus is common to all sections of Math 106 this fall. Each section has a policy sheet with information specific to that section.

Calculus Readiness Activity: This is a set of questions covering prerequisite material that you need to know to succeed in this course. You may take the CRA multiple times. If you don't succeed on your first attempt, review and try again. If you continue to have trouble, see your instructor or recitation leader for additional help. The first CRA is given on paper **during your first recitation** either **Tuesday, August 21** or **Wednesday, August 22**. There are 15 questions and you need a score of 13 or better to complete the CRA. If you do not succeed on paper, then you can take it again online (at most once per day) in the Learning Commons (student ID required; reservations need to be made in advance at [dlc-reserve.unl.edu](http://dlc-reserve.unl.edu)) up to once per day until **September 5**. No calculators or cell-phones are permitted on the CRA.

Gateway Exam: This exam consists of 8 questions in which you are asked to find the derivative without using calculators, notes, or tables. You must get at least 7 questions completely right to pass, with no partial credit and no points awarded for less than a passing mark. You may repeat the exam up to once a day during the exam period. The Gateway exam will be given once in recitation on **October 2** or **October 3**. It may be taken again, at most once per day, in the Learning Commons (student ID required; reservation needs to be made in advance at [dlc-reserve.unl.edu](http://dlc-reserve.unl.edu)) from **October 4** through **October 22**.

Online Homework: This course uses an online homework system, WeBWorK. There will be link from your course in Canvas to WeBWorK. WeBWorK homework will be due twice a week, at 5:00pm on Wednesdays and Sundays. You should attempt the online homework well before it is due, so that you can ask questions in a timely way. Doing this homework is essential to learning the course material at a level that will allow you to pass exams.

Mid-term Exams: These exams will be given on two Thursday evenings from 6:30pm to 8:00pm, namely **September 20**, **October 25**, and **on one Wednesday evening from 8:15 to 9:45, November 28**. The room for these exams will be announced by your instructor and posted on Canvas. You are expected to take these exams at the scheduled time, unless you have been approved for an alternate exam. Alternate exams are available for students who have a conflict with a scheduled university activity. If you need an alternate exam, you should request it as soon as possible through <http://www.math.unl.edu/alternate-exam-request>.

Under no circumstances will exams be given early. On exams, students are only allowed to use scientific calculators, not graphing or programmable ones. **You are not allowed to have on your person during exams any device that can access the internet or communicate in any way.** Cellphones, smart watches, etc. should be put away in backpacks/purses.

**Final Exam:** The final exam is **Monday, December 10th from 6:00pm to 8:00pm**. It will be comprehensive and all of the above remarks about mid-term exams also apply to the final exam. In particular, there are no early final exams and you are expected to arrange your end-of-semester travel plans to take the final exam at the scheduled time.

**Mathematics Resource Center:** You are encouraged to visit with your instructors when you have questions about the material or the course and to use the Mathematics Resource Center (MRC) in Avery 13. The MRC is staffed by tutors who can help you with questions and is also useful as a meeting place for the course. The MRC is busy during exams weeks; you can get more individual help at non-peak times. 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.

**Calculators/Desmos/Geogebra:** Being able to easily graph functions is very useful and you should have some graphing tool, either a program like Desmos or Geogebra or a graphing calculator, and be able to use it easily.

**Clickers:** If your instructor uses clicker questions, then you should bring an iClicker to class for each main lecture. You should register your clicker through Canvas by clicking on the evident link.

**Cell Phones:** As a courtesy to others, please turn off your cell phones and similar devices when you come to class.

**Academic Integrity:** We believe learning mathematics should be a community activity which is why we are encouraging you to work with your peers. Nonetheless, it is essential that you show us that you have really learned the material. Thus you should work with other people, but you must be able to write up solutions in your own words. Be sure that you understand everything you turn in.

Academic dishonesty steals opportunities and benefits from those who would have justly earned them; we will pursue such cases seriously, up to and including assigning a F for the course and referring cases to Judicial Affairs.

**Disability Accommodation:** The University of Nebraska-Lincoln is committed to providing flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 132 Canfield Administration, 472-3787 voice or TTY.

**Department Grading Appeal Policy:** Students who believe their academic evaluation has been prejudiced or capricious have recourse for appeals to (in order) the instructor, the department vice chair, the department chair, the departmental appeals committee, and the college appeals committee.

**Course Evaluation:** The Department of Mathematics Course Evaluation Form will be available through your Canvas account during the last two weeks of class. You'll get an email when the form becomes available. Evaluations are anonymous and instructors do not see any of the responses until after final grades have been submitted. Evaluations are important—the department uses evaluations to improve instruction. Please complete the evaluation and take the time to do so thoughtfully.

Week		Section	Topic(s)	Additional Study Problems
Week 1 (08/20–08/24)				
	M	1.1	Functions	p7: 36
		1.3	New From Old	p26: 18, 23
	W	1.2	Exponentials	p17: 9, 32,
		1.4	Logarithms	p33: 21, 39, 42, 47
	F	1.5	Trigonometry	p42: 1, 43
	<b>Recitation: CRA Review and CRA</b>			
	<b>Recitation: Function Transformations, Exponentials</b>			
Week 2 (08/27–08/31)				
	M	1.7	Intro to Continuity	p56: 33
	W	1.8	Limits	p64: 65
	F	2.1	Measuring Speed	p80: 18, 20
		2.2	Derivative at a Point	p87: 11, 13, 15, 17, 18, 20, 21
	<b>Recitation: Trigonometric Functions</b>			
	<b>Recitation: Continuity</b>			
Week 3 (09/03–09/07)				
	M		<b>Labor Day (no lecture)</b>	
	W	2.3	Derivative Function	p95: 36, 47
		2.4	Interpretations	
	F	2.5	Second Derivative	p108: 19, 20, 26, 28
		2.6	Differentiability	p114: 1–4, 9, 16
	<b>Recitation: The Derivative at a Point</b>			
	<b>Recitation: The Derivative Function</b>			
	<b><i>Last day to complete CRA is Wednesday, Sept 5th</i></b>			
Week 4 (09/10–09/14)				
	M	3.1	Derivs: Polynomials	
		3.2	Derivs: Exponentials	
	W	3.5	Derivs: Trigonometry	p154: 63
		3.3	Product Rule	
	F	3.3	Quotient Rule	p139: 10, 15, 19, 27, 45, 52;
	<b>Recitation: Interpreting the Derivative</b>			
	<b>Recitation: The Power Rule</b>			
Week 5 (09/17–09/21)				
	M		Review for Exam 1	
	W	3.4	The Chain Rule	p146: 3, 5, 25, 37, 51,
	F	3.6	Inverse Functions	p 153: 45; p159: 50, 52, 64
	<b>Recitation: Exam 1 Review</b>			
	<b>Recitation: Exponentials and Products</b>			
	<b><i>First Test is 6:30pm-8:00pm on Thursday, Sept 20th</i></b>			
Week 6 (09/24–09/28)				
	M	3.7	Implicit Differentiation	
	W	3.9	Linear Approximation	p172: 1-4, 7, 12, 16, 26, 40, 42
	F	3.8	Hyperbolic Functions	p167: 23, 24, 29, 33
	<b>Recitation: The Chain Rule</b>			
	<b>Recitation: Derivatives and Implicit Differentiation</b>			
Week 7 (10/01–10/05)				
	M		Review for Gateway Exam	
	W	3.10	Mean Value Theorem	p178: 1–9, 12–13, 19, 20
	F	4.1	Local Extrema	p192: 3, 25–28, 33, 37
	<b>Recitation: Review + Paper Gateway Exam</b>			
	<b>Recitation: Linear Approximation</b>			
	<b><i>Online gateway is available at the DLC starting Thursday, Oct 4th</i></b>			

Date	Section	Topic(s)	Exercises
Week 8 (10/08–10/12)			
	M	4.2	Global Extrema
	W	4.3	Optimization p210: 48
	F	4.4	Families of Functions p220: 1, 3, 5, 9–11, 13, 14, 30, 32, 49
<b>Recitation: The First and Second Derivative</b>			
<b>Recitation: Global Extrema</b>			
<b>Friday, Oct 12 is last day to switch to or from “Pass/No Pass”</b>			
Week 9 (10/15–10/19)			
	M		<b>Midsemester Break</b>
	W	4.6	Related Rates
	F	4.7	L'Hôpital's Rule p247: 1–8, 16, 21, 31, 32, 34, 38, 49, 56
<b>Recitation: Global Extrema Part 2</b>			
<b>Recitation: Related Rates</b>			
Week 10 (10/22–10/26)			
	M		Review for Exam
	W	4.8	Parametric Equations p256: 38,
	F	4.8	Parametric Equations p256:37, 46, 47, 50
<b>Recitation: Exam 2 Review</b>			
<b>Recitation: L'Hopital's Rule</b>			
<b>Last Day to attempt the online gateway is Monday, Oct 22nd</b>			
<b>Second Test is 6:30pm-8:00pm on Thursday, Oct 25th</b>			
Week 11 (10/29–11/02)			
	M	5.1	Distance Traveled
	W	5.2	The Definite Integral p286: 1, 3,19, 30, 31, 43
	F	5.3	Fundamental Theorem I p294: 1, 2, 4, 5, 31, 38
<b>Recitation: Parametric Equations</b>			
<b>Recitation: The Definite Integral</b>			
Week 12 (11/5–11/09)			
	M	5.4	Properties of Definite Integrals p305: 39–43
	W	6.1	Antiderivatives from Graphs p323: 1, 4, 16, 22, 30
	F	6.2	Antiderivatives from Formulas p330: 62
<b>Recitation: The Fundamental Theorem of Calculus</b>			
<b>Recitation: Graphical Antiderivatives</b>			
<b>Friday, Nov 9 is last day to withdraw (grade of W)</b>			
Week 13 (11/12–11/16)			
	M	6.3	Differential Equations p337: 3
	W	6.4	Fundamental Theorem II p342: 11, 17, 20, 23, 25
	F	7.1	Substitution p360: 2, 8, 10
<b>Recitation: Antiderivatives</b>			
<b>Recitation: The Fundamental Theorem of Calculus Part 2</b>			
Week 14 (11/19–11/23)			
	M	7.1	Substitution p360: 85,133
	W		Thanksgiving Break
	F		Thanksgiving Break
<b>Recitation: Exam 3 Review</b>			
<b>Recitation: Integration by Substitution</b>			
Week 15 (11/26 –11/30)			
	M		Review for Exam 3
	W		Review for Exam 3
	F		Review for Final Exam
<b>Third Test is 8:15pm-9:45pm on Wednesday, Nov 28th</b>			
Week 16 (12/03 –12/07)			
	M, W, F		Review for Final Exam
<b>Recitation: Final Exam Review</b>			
<b>Final Exam is 6:00pm-8:00pm on Monday, Dec 10th</b>			