Math 107H **University of Nebraska-Lincoln**
Calculus II **Fall 2017**

COURSE SYLLABUS

Text: *Calculus, Single and Multivariable, 6th ed.* by Hughes-Hallett, et al., ISBN: 978-0470-88861-2.

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.

Prerequisite Policy: Students who take Math 107 must have passed Math 106 or an equivalent course with a grade of P or C or better. Students who are new to UNL must also pass a readiness test for Math 107. Any students who do not meet this requirement will be dropped from the course.

Advanced Placement Program: If this is the first college mathematics course that you have attempted, then you may be eligible for 5 hours of free credit for Math 106, provided you get a grade of C, P or better in Math 107 this semester. To be considered for this credit, you should register with the Department of Mathematics, 203 Avery Hall early in the semester (no later than by the end of the third week of classes).

Calculators and Cell Phones: Calculators, cell phones and other electronic aids (including smart watches) are not permitted on quizzes or exams. Also, as a courtesy to others, please turn off your cell phones when you come to class.

Scheduling: A tentative schedule of assignments and exams is included in this syllabus. 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: There is a lot of content in this course, so it has a necessarily fast pace. You are expected to read the appropriate sections of the text BEFORE coming to the class 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).

Other Assignments: Your instructor will decide on other assignments such as weekly quizzes or homework. Please pay attention to the policy sheet provided by your instructor.

Gateway Exam: This exam consists of 7 questions over techniques of integration in which you are asked to carry out calculations without using calculators, notes, or tables. The Gateway Exam will be administered in the Digital Learning Center Exam Commons (Love Library North) (picture ID required). You may take the Gateway Exam as many times as you wish before the final deadline but you are permitted to take it at most once per day. The **deadline** for passing the Gateway is listed on the syllabus below.

Math Resource Center: Students in Math 107 are encouraged to use the Mathematics Resource Center (MRC: `http://www.math.unl.edu/resources/undergraduate/mrc`) in Avery 13 if they have questions related to this course, or as a place to meet and discuss the course with your working group. The recitation instructors also spend some time in the MRC. 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.

Grades Policy: Here is an approximate composition for the total points you will try to earn: 100 for each Hour Exam, 50 for Gateway Exam, 200 for the Final Exam, 150 total for Homework and Quiz, 20 for Group Project. Course grade for the course will be assigned by the standard conversion from your earned point percentage to the letter grades, 90%-100% is an A, etc.

Final Exam Policy: Students are expected to arrange their personal and work schedule to allow them to take the final 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 permitted to take the final exam early.

ADA Language: Students with disabilities are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide 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. 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.
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.
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.
You are not allowed to have on you during exams any device that can access the internet or communicate in any way. Cell phones, Apple watches, etc. should be put away in backpacks/purses.

Tentative Schedule

Week of	Section	Recommended Exercises
Aug 21	6.2 Review of Integration	p.277: 3, 5, 7, 11-14, 16, 22, 27
		p.330: 1-15 (odd), 21, 25, 26, 28, 33, 36, 41, 43, 46, 48-51, 53, 58
	7.1 Substitution	p.360: 1, 2, 3, 6, 7, 9, 11, 15, 25, 27-31, 33, 40, 42,
		57-62, 71, 72, 74 76, 77, 80, 81
	7.2 Integration by Parts	p.368: 1-3, 6, 7, 8, 10, 15, 20, 21, 25, 27, 28, 30,
		33-39 (odd), 41, 47, 48, 49, 53, 55
Aug 28	7.3 Integration by Tables	p.374: 7, 17, 25, 35
	7.4 Partial Fractions	p.384: 1, 3, 5, 10, 12, 16, 17, 18, 19, 41, 42, 45, 47, 49
	7.4 Trig. Substitutions	p.384: 20, 21, 31-34, 35, 52, 53, 55-63(odd), 62, 67, 69
	Friday, September 1 is the last day to file a drop to remove course from student's record	
Sept 4	*September 4 is Labor day, student and staff holiday*	
	7.5 Numerical Integration	p.392: 1, 2, 7, 16, 29, 30
	7.6 Improper Integrals	p.401: 1, 2, 5, 7, 8, 9, 11, 12, 15, 16, 20, 22, 23, 26, 28, 29, 35, 43
Sept 11	7.7 Comparison of Improper Integrals	p.406: 1-7(odd), 8, 11, 15-25 (odd) , 26, 31
	Catch up & Review	
	Thursday, Gateway Exam on paper. First day of on-line Gateway Exam	
	8.1 Areas & Volumes	p.419: 2, 3, 7, 9-17 (odd), 18, 21, 24, 28, 29, 31, 32, 34, 36
Sept 18	8.2 Volumes by Slicing & Arc Length	p.427: 5-13(odd), 13,14, 15-18, 21-24, 25, 26, 29, 31, 32,
		43, 44, 45, 49, 53
	8.3 Areas in Polar Coordinates	p.438: 1, 2, 5-8, 13, 15, 17, 18, 19, 25, 26, 27, 32, 33, 34
	8.4 Density & Center of Mass	p.446: 1-3, 5, 13, 15, 16, 17, 19
Sept 25	Catch up & Review	
	Catch up & Review	
	Thursday, Midterm Exam I	
	8.5 Applications to Physics (work only)	p.456: 1, 4-6, 11-15 (odd), 18, 19, 21, 23, 26(b)
Oct 2	9.1 Sequences	p.495: 1, 2, 7, 9, 11, 13, 16, 20-25, 28, 29, 41, 43
	9.2 Geometric Series	p.502: 8-14, 19, 20, 23, 25-30, 40, 41, 46
	9.3 Convergence of Series	p.510: 4-7, 10, 11, 15, 16, 17, 21, 25, 26, 27, 28, 29, 46
Oct 9	9.4 Tests for Convergence (Comparison Tests)	p.518: 1, 3, 4-7, 8, 9, 10, 11, 12, 38-40, 41-47(odd)
	9.4 Tests for Convergence (Absolute Convergence)	p.519: 14, 20, 61, 63, 71
	9.4 Tests for Convergence (Alternating Series)	p.518: 21-28, 29-35(odd), 36, 53, 55, 62, 65, 66,
		67-79 (odd), 80, 81, 84-86
	Friday, October 13 is the last day to change to P/NP	
Oct 16	*October 16–17 is Fall Break*	
	9.5 Power Series	p.527: 1-3, 4, 5, 7, 10, 12,13, 15, 17-20, 21, 28-32, 40, 43, 45
	Catch up & Review	
Oct 23	10.1 Taylor Polynomials	p.544: 1-3, 6, 7, 12, 18, 19, 25, 27, 29, 31, 33
	10.2 Taylor Series	p.550: 1, 4, 7, 9, 15, 17, 18, 19, 21, 22, 32, 33, 35, 36, 37, 44, 45
	10.3 New Taylor Series from Old	p.557: 1, 3, 4, 6, 8, 9, 10, 11, 12, 26, 27, 31, 32, 33,
		p.563: Use Theorem 9.9 to work: 2, 3, 5
Oct 30	Catch Up and Review	
	Catch Up and Review	
	Thursday, Midterm Exam II	
	10.4 Error Analysis	p.563: 1, 3, 5, 6, 9, 10, 12, 14
Nov 6	11.1 What is an ODE?	p.589: 1, 2, 4, 5, 7, 11, 12, 15, 17, 19, 21
	11.2 Slope Fields	p.594: 2, 4, 5, 8, 9, 13
	11.3 Euler's Method	p.602: 1, 3, 5, 9
	Friday, November 10 is the last day to withdraw from one or more courses	
Nov 13	11.4 Separable ODE's	p.607: 1, 3, 5, 6, 11, 21, 22, 28, 38, 44
	11.5 Growth & Decay	p.616: 1, 2, 3, 7, 10, 14, 15
	Revie & Catch up	
Nov 20	13.1 Displacement Vectors	p.724: 1, 2, 5, 7, 12, 15, 24, 25, 29, 31, 32, 39(b), 40
	Thanksgiving vacation is November 22-November 26	
Nov 27	13.2 Vectors in General	p.732: 1-5, 7, 10, 11, 16, 20, 30, 36
	13.3 The Dot Product	p.740: 1, 5, 7, 9, 11, 13, 15, 17, 19, 23, 25, 27, 29, 31,
		33, 38, 40, 41, 43, 45
	13.4 The Cross Product	p.749: 2, 3, 7, 9, 11, 14, 15, 17, 19, 20, 23, 27, 29, 31, 33
Dec 4	Catch Up and Review for Final Exam	
	Catch Up and Review for Final Exam	
	Catch Up and Review for Final Exam	
Dec 11	**Final Exam: 10:00 am - 12:00 pm, Tuesday, Dec. 12**	