Text.   *Calculus: Single and Multivariable, 5th Edition*, Hughes-Hallett, *et al.*, ISBN: 978-1-118-14155-7

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.

Calculators.   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 assignments and/or exams.

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. Math 107 covers a lot of material, so the pace is necessarily quite fast.

Mathematics Resource Center.   Students in Math 107 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.

Project.   This course will include a group project. Your instructor will decide on the specific requirements for your project report.

Homework.   The syllabus lists homework questions for each class day. Your instructor will tell you what homework will be collected and how it will be graded. You are strongly encouraged to complete these homework assignments in order to increase your understanding of the material.

Gateway Exam.   This exam will cover techniques of integration. To get any credit on the Gateway Exam you must demonstrate a high level of proficiency and accuracy. The exam will consist of 7 questions. Of these you must get at least 6 completely correct to pass the exam. No partial credit will be given. You will not be allowed to use calculators or notes. The Gateway exam will be given in recitation on Sept. 13th. It is also possible to take the Gateway at the College Testing Center (Burnett 127) any time between September 18th and October 19th. (A picture ID will be required.) You may attempt the electronic version of the Gateway Exam at most once a day.

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 Monday, December 10th, from 6-8 pm.** The room will be announced during the final week of class.

Prerequisites.   Students who take Math 107 must have passed Math 106 with a grade of P or C or better. 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 by Friday, September 7th.

Schedule.   The following schedule of topics is approximate.

Date	Section		Homework Questions
Aug 20 M	6.2	Review of Integration	1-15 (odd), 22, 25, 28, 31, 35, 40-44, 50, 51, 54, 59
22 W	7.1	Substitution	1, 2, 3, 6, 7, 9, 11, 15, 25, 27-31, 33, 40, 43, 57-62, 74, 75, 78, 79
24 F	7.2	Integration by Parts	1, 3, 6, 7, 8, 9, 10, 14, 15, 20, 24, 25, 28, 31, 33, 35, 39, 48, 49, 50
Aug 27 M	7.3	Integration by Tables	7, 17, 25, 35
29 W	7.4	Partial Fractions	1, 3, 5, 10, 12, 16, 18-21, 25
31 F	7.4	Trig. Substitutions	27, 31, 32, 35, 38, 39, 42, 45, 46-51
		August 31 is the last day to withdraw without the course appearing on your transcript.	
		September 3: Labor Day	
Sep 5 W	Catch up		
7 F	7.5	Numerical Integration	1, 2, 7, 12, 22

Sep 10 M	7.7	Improper Integrals	1, 2, 5, 7, 8, 9, 12, 15, 16, 22, 23, 26, 29, 35, 49
		September 10 is the first day to take the Gateway Exam online.	
12 W	7.8	Comparison of Integrals	1, 3, 5, 8, 10, 15, 17, 20, 22-24, 30, 31
13 R	**Gateway Exam**		
14 F	8.1	Areas &Volumes	2, 3, 7, 9, 10, 12-14, 16, 18, 19-21, 24-25, 27
Sep 17 M	8.2	Volumes & Lengths	1-9(odd), 11-13, 18, 19, 21-24, 33, 35, 36, 41, 42, 47
19 W	Catch up		
21 F	8.3	Polar Coordinates	1, 2, 5, 7, 8, 11, 15, 23, 24, 26, 28-30, 35, 36, 39, 40
Sep 24 M	8.4	Density &Center of Mass	1-5, 7, 8, 10, 11, 21, 23, 25, 27
26 W	Review		
27 R	**Exam 1**		
28 F	8.5	Applications to Physics	1-3, 7-9, 11, 13, 15, 17, 20, 21, 25, 28
Oct 1 M	9.1	Sequences	1, 3, 5, 7, 8, 13, 16, 20-25, 28, 29, 38, 40
2 T	**Project Assigned**		
3 W	9.2	Geometric Series	1-7, 11, 12, 15, 16, 18-21, 24, 36
5 F	9.3	Convergence of Series	2, 4, 5, 7, 10, 11, 16, 17, 21, 25, 26, 28, 29, 46
Oct 8 M	9.4	Tests for Convergence	1, 3, 4-7, 9, 12, 14, 15, 17, 19-22
10 W	9.4	Tests for Convergence	24, 25, 27, 28-33, 36, 39, 46, 48, 55, 56
12 F	9.4	The Root Test	60, 61, 63, 67, 71, 73-75, 78-80, 88, 89
		October 12 is the last day to change your grade option to or from Pass/No Pass.	
		October 15–October 16: Fall Break	
Oct 17 W	Catch up		
19 F	9.5	Power Series	1-4, 5, 7, 10, 11-21(odd), 25-29, 35, 37, 40
		October 19 is the last day to take the Gateway Exam online.	
Oct 22 M	10.1	Taylor Polynomials	1-3, 6, 7, 12, 17, 19, 25, 27
24 W	Review		
25 R	**Exam 2**		
26 F	10.2	Taylor Series	1, 4, 7, 9, 15, 17, 20, 22, 23, 30, 31, 34–36, 43, 44
Oct 29 M	10.3	New Taylor Series from Old	1, 4, 6, 8, 9, 13, 14, 16, 19, 24, 25, 29
31 W	Catch up		
Nov 2 F	10.4	Error Analysis	1, 3, 5, 6, 9, 10, 11
Nov 5 M	11.1	What is an ODE?	1, 3, 4, 5, 7, 9, 10, 13, 17, 20
7 W	11.4	Separable ODE's	2, 4, 5, 11, 13, 15, 20, 21, 27, 28, 33, 39
9 F	Catch up		
		November 9 is the last day you can withdraw from the class.	
Nov 12 M	11.5	Growth &Decay	2, 3, 9, 11, 15, 17, 24, 25
14 W	12.1	Tour of 3-D Space	1, 2, 3, 5, 7, 9, 10, 11, 12
16 F	13.1	Displacement Vectors	1, 3, 5, 7, 11, 15, 16, 20, 21, 25, 27, 28, 30, 31
Nov 19 M	13.2	Vectors in General	7, 11, 13, 15, 18, 21, 23, 26
20 T	**Project Due**		
		November 21–November 25: Thanksgiving Break	
Nov 26 M	13.3	The Dot Product	1, 5, 7-9, 11, 15, 17, 18, 19, 21, 28, 29, 31, 33, 39, 45
28 W	Review		
29 R	**Exam 3**		
30 F	17.2	Motion	3,9-11,14,16,23,27,29,37
Dec 3 M	Catch up		
5 W	Review		
7 F	Review		

Department Grading 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.