COURSE SYLLABUS

Text: *Calculus: Single and Multivariable, 6th ed.* by Hughes-Hallet, et al., ISBN: 978-0470-88861-2. Note, this syllabus works also for the 7th edition.

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.

In-Person/Remote Teaching: Please consult your instructor's policy sheet on class attendance and remote teaching. The current UNL policy on health and safety states: "Those who are fully vaccinated are not required to wear face coverings, but are strongly encouraged to do so indoors. Anyone who is not fully vaccinated is expected to wear a face covering." Also, you can consult the UNL policy on COVID19 (which will be updated from time to time) at: https://covid19.unl.edu/

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 receive an e-mail 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.

Scheduling: A tentative schedule of assignments and exams is included in this syllabus. The pace of this course is necessarily fast since it is a four credit which meets 3 times plus one recitation per week. It is your responsibility to keep track of the course details and the schedule of your section. You can also see the Faculty Senate Class Attendance Policy for Fall semester at: https://www.unl.edu/facultysenate/policies/Class-Attendance-Policy-081121.pdf

Daily Work: Do an initial reading of the section(s) expected to be covered before coming to class each day–even if you don't understand the details, that reading will help you to better understand the lecture. Rereading more carefully after the class can also be helpful. The exercises listed below represent a minimum assignment and should be done as the material is covered.

Exams/Quizzes/Homework: Please consult your instructor's course information sheet or policy.

Calculators: Calculators will not be allowed on any of the exams or quizzes in this course.

Final Exam: The time for the final exam is **6:00-8:00p.m., Wednesday, December 15**. The final exam will be a comprehensive exam. More details/instructions will be provided by your instructor later during the semester. You are expected to arrange your personal and work schedule to allow you to take the exam at the scheduled time. Students with 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.

Advanced Placement: If this is the first college mathematics course that you have attempted, then you may be eligible for 10 hours of free credit for Math 106 and Math 107, provided you earn a grade of P, C or better in Math 208 this semester. To be considered for this credit, you should register with the Department of Mathematics, 203 Avery Hall, by Friday, September 10, 2021.

ADA Language: Students with disabilities are encouraged to contact the instructor for 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 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.

Department 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 that your grade was assigned incorrectly or capriciously, appeals should be made to (in order) the instructor, the department chair, the department grading appeals committee, and the college grading appeals committee.

Dates	Sections/Topic	Exercises
Aug 23–27	12.1 Functions of Two Variables	1–4, 6, 10, 11, 13, 14, 17, 21, 23, 25, 29, 30
	12.2 Graphs of Functions of Two Variables	1, 2, 3, 7, 8, 10, 15, 16, 18–20, 23–25
	12.3 Contour Diagrams	1, 2, 4, 5, 7– 9, 13, 16, 17, 24, 27(a,b)
	12.4 Linear Functions	1–5, 7–11, 13, 21, 23, 26, 27
Aug 30–Sep 3	12.5 Functions of Three Variables	1–4, 8–11, 13, 15, 16–18, 23, 31
	12.6 Limits and Continuity	1, 2, 3, 6, 7, 9, 11–14, 19, 23
	13.1 Vectors	1, 2, 5, 7, 12, 15, 24, 25, 29, 31, 32, 39(b), 40, 41
	13.2 Vectors	1–5, 7, 10, 11, 16, 20, 30, 36
Friday, Sep 3, is the last day to drop without a W.		
Sep 6–10	**Labor Day Holiday, Sep 6**	(no class)
	13.3 The Dot Product	1, 5–19(odd), 23, 25–27, 29, 31, 33, 38, 40, 41, 43, 45
	13.4 The Cross Product	2, 3, 7, 9, 11, 14, 15 ,17,19, 20, 23, 27, 29, 31,33, 39
Sep 13–17	14.1 The Partial Derivative	1, 3, 5, 10–12, 17–19, 21, 22, 24, 25, 30
	14.2 Computing Partial Derivatives	1, 3–5, 9, 11, 18, 21–25, 31, 39–41, 44, 45, 49
	14.3 Local Linearity	1, 2, 3, 5, 6, 7, 9, 11, 13, 18, 20, 22, 23
	14.4 Gradients and Directional Derivatives	1–8, 15, 17, 20, 21, 23–26, 29–33, 37
Sep 20–24	14.4 Gradients and Directional Derivatives	39, 45, 46, 49, 51, 53, 56–59, 61, 67, 69–71, 75
	14.5 Gradients and Directional Derivatives	2, 3, 7, 9, 14, 17–19, 21, 25–27, 35, 37–41, 46, 47, 53, 56, 57
	14.6 The Chain Rule	1, 2, 3, 5, 7, 9, 11–15, 17, 20, 23, 24, 28, 33, 38
	14.7 Second-Order Partial Derivatives	1, 3, 6, 11, 13, 14, 16, 19–21, 23–31(odd), 34, 35, 37, 41, 44
Sep 27–Oct 1	15.1 Local Extrema	1–4, 6, 7–35(odd)
	Catch up/Review	
	Exam 1	
	15.2 Optimization	2, 5, 7, 8, 9, 10–13, 15, 17, 19, 20
Oct 4–8	15.3 Constrained Optimization	1, 3, 5, 6, 7, 9–13, 17–19, 22, 24, 30, 31, 32, 45
	Catch up/Review	
	16.1 The Definite Integral in the Plane	1, 3, 6–11, 13, 15, 22, 23
	16.2 Iterated Integrals	1–4, 9–23(odd), 29, 33–38
Oct 11–15	16.2 Iterated Integrals	42, 43–51(odd), 52, 54, 55
	16.3 Triple Integrals	1-9(odd),11–27(odd), 28–30, 33, 34–37, 39, 41, 44, 45, 50, 57
	21.2 Change of variables (optional)	1, 3, 4, 5–7, 9, 13, 15
	16.4 Double Integrals in Polar Coord.	1–8, 10–12, 14–17, 19, 21, 24, 25, 27, 28, 30, 31,33
Friday, October 15, is the last day to change your grade option to or from Pass/No Pass.		
Oct 18–19	**Fall Semester Break**	
Oct 20–22	16.5 Triple Integrals in Cylindrical Coord.	1, 3–7, 9, 3–15, 21, 23, 27–37(odd), 48, 49, 57–59
	16.5 Triple Integrals in Spherical Coord.	8, 10, 11, 24, 30, 32, 39, 43, 47, 65
	17.1 Parameterized Curves	1–7, 10, 11, 13, 15, 19, 21, 26, 29, 33, 45–49(odd), 57, 62, 81
Oct 25–29	17.2 Motion, Velocity and Acceleration	1,3, 5, 9, 10,13, 15, 17, 21–23, 25, 27, 30, 36, 41, 45
	Catch up/Review	
	Exam 2	
	17.3 Vector Fields	1–5, 7, 9, 11, 13, 15, 16, 20, 21–27(odd), 28, 30, 31, 33
Nov 1–5	18.1 The Idea of a Line Integral	1–8, 11,13, 15–21(odd), 25–28, 31, 32, 36,46
	18.2 Computing Line Integrals	1–23(odd), 26, 29–35(odd)
	18.3 Gradient Fields and Path-Indep.	1, 3,, 4, 5, 7, 8, 9, 10, 13, 15, 17–21, 27, 29, 31, 32, 38, 39, 48
	18.4 Green's Theorem	1–17(odd), 19, 20, 22, 26, 27, 33, 34, 39
Nov 8–12	Catch up/Review	
	19.1 The Idea of a Flux Integral	1–9, 13, 14, 16–19, 21, 25, 26, 29–35(odd), 39, 48
	21.1 Parameterized Surfaces	1–8, 10–13, 17, 15, 17, 19, 20
	21.3 Flux Through Parameterized Surfaces	1–3, 5–9, 11, 12
Friday, Nov 12, is the last day to withdraw from the course and receive a grade of W.		
Nov 15–19	19.2 Flux Integrals through graphs	1–6, 7, 9, 11, 13, 15, 19, 29, 31, 41-43, 47
	19.2 Flux Integrals through graphs	16, 17, 21–23, 25, 27, 35, 37, 49, 51, 52
	Catch up/Review	
	19.3 The Divergence of a Vector Field	1, 3, 4, 5–11(odd), 12, 17–20, 24, 29, 36
Nov 22–23	19.4 The Divergence Theorem	1, 2,3–9(odd), 8, 14–17, 19, 23, 25, 28, 32
	Catch up/Review	
Nov 24–28	**Thanksgiving Holiday**	
Nov 29–Dec 3	20.1 The Curl of a Vector Field	1–5, 7, 11–16, 25
	Catch up/Review	
	Exam 3	
	20.2 Stokes' Theorem	1–5, 7, 9, 11, 14, 17–19, 21, 23, 25–27
Dec 7–11	Catch up/Review	
Final Exam, 6:00-8:00p.m., Wednesday, December 15.		