



+Basic Course Information

Semester:	Fall 2024	Instructor Name:	Jill Nelipovich
Course Title & #:	Math 210: Multivariable Calculus	Email:	Jill.nelipovich@imperial.edu
CRN #:	10490	Webpage (optional):	Canvas
Classroom:	2723	Office #:	2760
Class Dates:	08/12/24 – 12/07/24	Office Hours:	MW: 10:15 – 11:15 a.m. W: 5:45 – 6:15 p.m. T: 12:30 – 1:30 p.m. R: 3:00 – 3:30 p.m.
Class Days:	MW	Office Phone #:	760-355-6297
Class Times:	7:30 – 10:05	Emergency Contact:	760-355-6201
Units:	4	Class Format/Modality:	Face-to-Face

Course Description

Vector valued functions, calculus of functions of more than one variable, partial derivatives, multiple integration, Green's Theorem, Stokes' Theorem, divergence theorem. (C-ID: MATH 230) (CSU/UC)

Course Prerequisite(s) and/or Corequisite(s)

MATH 194 - with a grade of "C" or better.

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

Demonstrate problem-solving strategies by identifying an appropriate method to solve a given problem, correctly set up the problem, perform the appropriate analysis and computation, and share their interpretation of the conclusion or the outcome, using correct grammar or in an oral presentation. This outcome will be assessed through selected exercises on exams throughout the semester

Textbooks & Other Resources or Links

Stewart, James, Clegg, Daniel, Watson, Saleem, 2021. Calculus: Early Transcendentals. 9th Brooks/Cole. ISBN: 9781337613927 or 9780357687901

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Perform vector operations
2. Determine equations of lines and planes
3. Find the limit of a function at a point
4. Evaluate derivatives
5. Write the equation of a tangent plane at a point
6. Determine differentiability
7. Find local extrema and test for saddle points
8. Solve constraint problems using Lagrange multipliers
9. Compute arc length
10. Find the divergence and curl of a vector field
11. Evaluate two and three dimensional integrals
12. Apply Green's, Stokes', and divergence theorems

Course Requirements and Instructional Methods

1. Class participation: Be present in mind, body and spirit! You need to participate to succeed. Calculus is not easy.
Your algebra must be strong! Your trig – yep! You need that knowledge too (especially in Calc
2. Do not spend time on your cell phone. Time on your cell phone is time away from calculus.
3. Love to learn! Embrace the productive struggle. Take joy in not knowing how to do a problem and working it out with your peers. Learn a little every day and refrain from learning a lot in one day. You need time to digest the material.
4. Exams – Four exams! Study a little bit every day.
5. Final Exam – you get to share with me what you learned!
6. No Make-up tests. If you miss an exam and can produce an excused absence as defined by the catalog, I will adopt the policy of some departments of the University of Southern California: your test score will be the average of your other three exam scores AND the average of the final exam of the class.



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Course Grading Based on Course Objectives

Quizzes: In class and on Canvas.....	10%	
Exams: (four).....	60%	A: 90% - 100% B 80% - 89.9%
Projects.....	5%	C: 70: - 79.9% D: 60% - 69.9%
Final Exam.....	25%	F: Less than 60%

Academic Honesty (Artificial Intelligence -AI)

IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.

Course Policies

1. Form study groups.
2. Become a family.
3. Apply to be a part of our new MESA (Mathematics, Engineering and Science Achievement) center.
4. If you are not admitted to MESA (for not meeting the state defined qualifications), our MESA director provides a different acronym for you: (ASEM – Achievement in Science, Engineering and Mathematics) for you and you are all part of the same extended family.
5. Don't cheat.
6. Cell phones are only allowed for taking pictures of the work on the board. We will have a productive couple of hours with our math family.

Other Course Information

1. During exams there are no restroom breaks.
2. There are no make-up tests. Every person in the class is provided the opportunity to show me what they didn't learn on a challenging end of the year test the week before finals.

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit <http://www.imperial.edu/studentresources> or click the heart icon in Canvas.

Anticipated Class Schedule/Calendar

Date or Week	Activity, Assignment, and/or Topic	
August 12	Chapter 12.1	
August 14	Chapter 12.2 Chapter 12.2, chapter 12.3	
August 19	Chapter 12.4 (Zoom)	
August 21	Chapter 12.5 Chapter 12.6 (Zoom)	
Week 3 August 26 - 30	No Class – outside assignment Chapter 13.1, Chapter 13.2	
Week 4 September 2 - 6	Holiday: September 2 13.1, 13.2	
September 9	13.3, 14.1	
September 11	14.2, 14.3	
September 16	Review	
September 18	Exam 1	
September 23	Chapter 14.4, 14.5	
September 25	Chapter 14.6, 14.7	
September 30	14.8, 15.1	
Sept 30 – Oct 4	15.2, Review	
October 7	Exam 2	
October 9	Chapter 15.3, 15.4	
October 14	Chapter 15.5, 15.6	
October 16	Chapter 15.6	
October 21	Chapter 15.7, 15.8	
October 23	Chapter 15.9, Review	
October 28	Exam 3 - Chapter 15	
October 30	Chapter 16.1, 16.2	
November 4	Chapter 16.3, 16.4	
November 6	Chapter 16.5, 16.6	
November 11	Holiday	
November 13	Chapter 16.7, 16.8	
November 18	Review	
November 20	Exam 4	
Thanksgiving Recess		
December 2	Review	
December 4	Final Exam	

Subject to change without prior notice



Chapter 12.1	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43
Chapter 12.2	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47
Chapter 12.3	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 55, 57
Chapter 12.4	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 43, 45, 47, 49, 52
Chapter 12.5	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 58, 59, 60, 61, 63, 67, 69, 71, 73
Chapter 12.6	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 45, 47, 49
Chapter 13.1	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 – 30 all, 31, 33, 35, 37, 39, 51, 53
Chapter 13.2	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 37, 39, 41, 43, 45, 47, 49, 51, 53
Chapter 13.3	1, 3, 5, 7, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 47, 49, 51, 53, 59, 67, 69
Chapter 13.4	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 37k, 39, 41
Chapter 14.1	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 32, 33, 37, 41, 45, 47, 49, 53, 61-66 all, 67
Chapter 14.2	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 37, 41, 43, 45, 47, 49, 51, 53
Chapter 14.3	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 37, 39, 41, 43, 45, 47, 51, 53, 57, 59, 61, 63, 65, 73, 79, 83, 91
Chapter 14.4	1, 3, 5, 7, 9, 15, 17, 19, 21, 25, 27, 29, 31, 33, 39, 41, 43, 45, 47
Chapter 14.5	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43
Chapter 14.6	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 34, 35, 37, 45, 47, 49, 51, 53, 57, 61, 63, 65
Chapter 14.7	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 33, 35, 37, 39, 43, 45, 47, 49, 51, 53, 55, 57
Chapter 14.8	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 41, 43, 45, 47, 49, 51, 53, 55, 57
Chapter 15.1	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 53, 55
Chapter 15.2	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 2, 23, 25, 27, 29, 31, 33, 35, 37, 39, 43, 45, 47, 49, 55, 57, 59, 61, 63, 65, 67, 69, 71, 75, 79
Chapter 15.3	1 – 6 all, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 45
Chapter 15.4	1, 3, 5, 7, 9, 11, 15, 17, 19, 21, 23, 25, 29, 31, 35
Chapter 15.5	1, 3, 5, 7, 9, 11, 13, 25
Chapter 15.6	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 39, 41, 43, 47, 49, 51, 55
Chapter 15.7	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31
Chapter 15.8	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 43, 45
Chapter 15.9	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21
Chapter 16.1	1, 3, 5, 7, 9, 11, 13 – 18 all, 19-22 all, 25, 27, 29, 31 – 34 all
Chapter 16.2	1, 3, 5, 7, 8, 11, 13, 15, 17, 19, 21, 23, 35, 37, 39, 41, 43, 45, 47, 49, 53
Chapter 16.3	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 35, 37, 39
Chapter 16.4	1, 3, 5, 7, 9, 11, 13, 15, 17, 21, 25, 27, 33
Chapter 16.5	1, 3, 5, 7, 9, 14, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33
Chapter 16.6	1, 3, 5, 13 – 18 all, 19, 21, 23, 25, 33, 35, 39, 41, 43, 45, 47, 49, 51



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Chapter 16.7	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27 29, 31, 39, 43, 47
Chapter 16.8	1, 3, 5, 7, 9, 11, 13, 17, 19, 21, 23
Chapter 16.9	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 27, 29, 31