

## **Math 21C: Calculus: Partial Derivatives and Series (Section C)**

**Fall Quarter 2022 at UC Davis**

### **(Tentative) Schedule:**

Disclaimer: The following schedule is tentative, and there may be changes. I will send an announcement on Canvas to notify students of any changes.

Also see the department syllabus for Math 21C ([https://www.math.ucdavis.edu/courses/syllabus\\_detail?cm\\_id=56](https://www.math.ucdavis.edu/courses/syllabus_detail?cm_id=56)).

**Lecture 1:** Sequences.

**Lecture 2:** Infinite series.

**Lecture 3:** The Integral Test.

**Lecture 4:** Comparison Tests: Part 1.

**Lecture 5:** Comparison Tests: Part 2.

**Lecture 6:** The Ratio and Root Tests.

**Lecture 7:** Alternating series, absolute convergence, and conditional convergence.

**Lecture 8:** Power series.

**Lecture 9:** Maclaurin and Taylor Series.

**Lecture 10:** Convergence of Taylor Series.

**Lecture 11:** The Binomial Series and applications of Taylor Series.

**Lecture 12:** Three-dimensional coordinate systems, and vectors.

**Lecture 13:** The dot product.

### **MIDTERM 1**

**Lecture 14:** The cross product.

**Lecture 15:** Lines and planes in space.

**Lecture 16:** Curves in space and their tangents.

**Lecture 17:** Integrals of vector functions, and projectile motion.

**Lecture 18:** Functions of several variables.

**Lecture 19:** Limits and continuity in higher dimensions.

**Lecture 20:** Partial derivatives.

**Lecture 21:** The chain rule.

**Lecture 22:** Directional derivatives and gradient vectors.

**Lecture 23:** Tangent planes and differentials.

### **MIDTERM 2**

**Lecture 24:** Extreme values and saddle points: Part 1.

**Lecture 25:** Extreme values and saddle points: Part 2.

**Lecture 26:** Lagrange multipliers: Part 1.

**Lecture 27:** Lagrange multipliers: Part 2.

**Lecture 28:** Catch-up/Review.

### **FINAL EXAM**

SEPTEMBER						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
18	19	20	21 Lecture 1	22	23 Lecture 2	24
25	26 Lecture 3 Homework 1 due by 10:00pm (on Gradescope) Technology Assignment (optional) due by 10:00pm (on Gradescope)	27	28 Lecture 4	29	30 Lecture 5	

OCTOBER						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3 Lecture 6 Homework 2 due by 10:00pm (on Gradescope)	4	5 Lecture 7	6	7 Lecture 8	8
9	10 Lecture 9 Homework 3 due by 10:00pm (on Gradescope)	11	12 Lecture 10	13	14 Lecture 11	15
16	17 Lecture 12 Homework 4 due by 10:00pm (on Gradescope)	18	19 Lecture 13	20	21 <b>MIDTERM 1</b>	22
23	24 Lecture 14 Homework 5 due by 10:00pm (on Gradescope)	25	26 Lecture 15	27	28 Lecture 16	29
30	31 Lecture 17 Homework 6 due by 10:00pm (on Gradescope)					

NOVEMBER						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2 Lecture 18	3	4 Lecture 19	5
6	7 Lecture 20 Homework 7 due by 10:00pm (on Gradescope)	8	9 Lecture 21	10	11 HOLIDAY	12
13	14 Lecture 22 Homework 8 due by 10:00pm (on Gradescope)	15	16 Lecture 23	17	18 <b>MIDTERM 2</b>	19
20	21 Lecture 24 Homework 9 due by 10:00pm (on Gradescope)	22	23 Lecture 25	24 HOLIDAY	25 HOLIDAY	26
27	28 Lecture 26 Homework 10 due by 10:00pm (on Gradescope)	29	30 Lecture 27			

DECEMBER						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2 Lecture 28	3
4	5	6	7	8 <b>FINAL EXAM</b> 1:00pm-3:00pm	9	