



Birzeit University
Mathematics Department
Math1321-Calculus II
First Semester 2022-2023
Course Outline

Textbook: Thomas G., M. Weir and J. Hass, Thomas' Calculus.
Twelfth Edition, Addison-Wesley

Course Material-Chapters:

Chapter	Topics	Sections
Ch.8	Techniques of Integration	8.7
Ch.10	Infinite Sequences and Series	1-10
Ch.11	Parametric Equations and Polar Coordinates	1-5
Ch.12	Vectors and the Geometry of Space	1-6

Grading Policy:

Two Exams	50%
Quizzes	10%
Final Exam	40%

Course Material-Sections

Section	Section title
8.7	Improper Integrals
	<u>Chapter 10</u>
10.1	Sequences
10.2	Infinite Series
10.3	Integral test
10.4	Comparison tests
10.5	Ratio, nth root test
10.6	Alternating series
10.7	Power series
10.8	Taylor series
10.9	Convergence of Taylor series
10.10	Binomial Series
	<u>Chapter 11</u>
11.1	Parametrization of Plane Curves
11.2	Calculus with Parametric Curves
11.3	Polar Coordinates
11.4	Graphing on Polar Coordinates
11.5	Area and Lengths in Polar Coordinates
	<u>Chapter 12</u>
12.1	Three Dimensional Coordinate System
12.2	Vectors
12.3	The Dot Product
12.4	The Cross Product
12.5	Lines and Planes in Space
12.6	Cylinders and Quadratic Surfaces in Space

Suggested Problems:

Section	Lecture Problems	Discussion Problems
8.7	15,47,63	4,10,14,16,25,32,37,41,50,58,62,65
Chapter 10-Infinite Sequences and Series		
10.1	46,59,68,84	6,10,22,26,31,35,36,41,44,48,50,54,58,60,63,70,72,76,82,86,92,111
10.2	37,51,64,75	6,14,18,24,32,38,44,54,62,63,78,90
10.3	8,26,34	6,13,20,22,28,32,38,40,42
10.4	10,22,36,46	8,15,18,27,28,32,40,43,52
10.5	6,15,20,30	7,12,16,20,28,38,43,46,60
10.6	14,19,29	8,13,20,25,30,39,42,50,54
10.7	11,24,41	4,12,14,23,29,32,40,46,49
10.8	19,30	3,14,20,22,27,32,37
10.9	22,40	10,12,18,28,35,37,41
10.10	2,25	10,16,26,30,33
Chapter 11-Parametric Equations and Polar Coordinates		
11.1	7,13,16	2,6,10,14,15,18,20,22,26
11.2	9,15,23	7,14,20,22,25,27
11.3	24,37,60	1,6,7,14,16,22,26,32,38,42,52,62
11.4	4,7	1,6,8,14,19,21,28
11.5	5,18	6,9,13,16,21,23
Chapter 12-Vectors and the Geometry of Space		
12.1	13,32,34	8,12,14,20,26,30,36,43,56,64,65
12.2	14,41	7,10,15,18,22,25,33,40,42
12.3	32,37	5,10,17,20,31,33,45
12.4	17,33	3,16,20,23,27,34,40,45
12.5	10,31,45	2,6,9,20,22,25,28,32,35,44,46,48,54,60,62,70
12.6		1-12