

**Department of Mathematics
King Abdulaziz University
Math 205 Syllabus**

2016 (1436)

Textbook: Calculus, Seventh Edition

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Chapter Title	Section Title	Examples	Exercises	HW
Chapter 11 Infinite Sequences and Series	11.1 Sequences	1,2, 4-13	5,7,17,21,25,41,43,45	3,13,15,19,27,33
	11.2 Series	1-10	13,23,25,27,31,35	9,24,26,28
	11.3 The Integral Test and Estimate of Sums	1-4	3,11,13,17,21	5,12,22
	11.4 The Comparison Tests	1-4	5,9,14,23,31	4,18,24
	11.5 Alternating Series	1-3	4,5,7,9,11	3,8,10
	11.6 Absolute Convergence and the Ratio and Root Tests.	1-6	4,5,14,18,21,23	3,8,20,22
	11.7 Strategy for Testing Series	1-6	3,11,13	1-28(odd)
	11.8 Power Series	1-5	7,9,12,17,19	3,5,8,18
	11.9 Representations of Functions as Power Series	1-3,5-7	5,6,7,13,14(a,b),15	3,4,9
	11.10 Taylor and Maclaurin Series	1,3-6,9	5,15,16,17,19,25,45(a)	6,7,26

Chapter Title	Section Title	Examples	Exercises	HW
Chapter 15 Multiple Integrals	15.1 Double Integrals over Rectangles	1-3	1,2	3
	15.2 Iterated Integrals	1-5	3,9,17,25	5,7,13,15,20
	15.3 Double Integrals over General Regions	1-5	1,5,14,17,49,52	3,9,13
	15.4 Double Integrals in Polar Coordinates	1-4	5,7,11,18,29,	6,9,17,23,31
	15.5 Applications of Double Integrals	2-4	5,8	3,10
	15.6 Surface Area	1,2	3,7,9	1,2
	15.7 Triple Integrals	1-5	5,8,11,15,19,29	3,9,16
	15.8 Triple Integrals in Cylindrical Coordinates	1-4	9(a),10(a),17,29	9(b),10(b),18,30
	15.9 Triple Integrals in Spherical Coordinates	1-4	9(a),21,35	9(b),22,23
	15.10 Change of Variables in Multiple Integrals	1,2,3	5,17	1,3,15

Chapter Title	Section Title	Examples	Exercises	HW
Chapter 16 Vector Calculus	16.1 Vector fields	1,2,6	23,26	21,25
	16.2 Line Integrals	1,2,4-8	3,10,21,29(a)	1,11,19,30
	16.3 The Fundamental Theorem For Line Integrals	2-5	5,7,12,15	3,4,13,17
	16.4 Green's Theorem	1-4	7,8,9	1,3,5
	16.5 Curl And Divergence	1-4	1,4,13,15	2,3,4,14
	16.6 Parametric Surfaces And Their Areas	4-11	33,39,45,46	34,41
	16.7 Surface Integrals	1-4	9,23	10,25
	16.8 Stokes Theorem	1,2	3,7	2,9
	16.9 The Divergence Theorem	1,2	5,7	3,11

Instructions:

1. All the mentioned examples and exercises will be solved in the class by the instructor.
2. Homework should be submitted in the beginning of each week.
3. **Marks Distribution:** Exam.I (25 marks), Exam.II (25 marks), Final Exam. (35 marks), Section (15 marks).

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