

Course Title: Calculus 3

Course Number: 250202

Textbook: Anton, Bivens, Davis. "Calculus: Early Transcendentals". 11th Edition. Wiley (2016).

Instructor: Feras Awad.

Selected Exercises from Chapter 11: THREE-DIMENSIONAL SPACE; VECTORS

Section Number	Section Name	Pages in the Book	Exercises
11.1	RECTANGULAR COORDINATES IN 3-SPACE; SPHERES; CYLINDRICAL SURFACES	678-680	3, 9, 12, 13, 23, 29, 30, 31, 32 TF: 19, 20, 21, 22
11.2	VECTORS	688-690	1, 5, 9, 11, 13, 16, 21, 23, 25, 31, 33, 37 TF: 17, 18, 19, 20
11.3	DOT PRODUCT; PROJECTIONS	698-700	1, 2, 8, 9, 12, 14, 15, 24, 25 TF: 28, 29, 30, 31
11.4	CROSS PRODUCT	708-710	1, 3, 5, 11, 12, 17, 19, 21, 28, 34, 37 TF: 13, 14, 15, 16
11.5	PARAMETRIC EQUATIONS OF LINES	714-717	1, 3, 15, 21, 23, 29, 31, 33, 37 TF: 11, 12, 13, 14
11.6	PLANES IN 3-SPACE	722-724	3, 5, 7, 11, 13, 15, 17, 19, 25, 26, 27, 28, 30, 32, 33, 35, 37, 41, 43, 49 TF: 21, 22, 23, 24
11.8	CYLINDRICAL AND SPHERICAL COORDINATES	740-741	1, 3, 5, 7, 9, 11, 19, 21, 23, 24, 27, 28, 29, 31, 33, 37, 39, 41, 45 TF: 15, 16, 17

Selected Exercises from Chapter 12: VECTOR-VALUED FUNCTIONS

Section Number	Section Name	Pages in the Book	Exercises
12.1	INTRODUCTION TO VECTOR-VALUED FUNCTIONS	748-750	2, 3, 17, 19, TF: 31, 32, 33, 34
12.2	CALCULUS OF VECTOR-VALUED FUNCTIONS	757-759	1, 4, 5, 9, 10, 11, 13, 15, 19, 21, 27, 29, 32, 33, 35, 38, 39, 40, 45, 47 TF: 41, 42, 43, 44
12.3	CHANGE OF PARAMETER; ARC LENGTH	766-768	1, 3, 5, 8, 9, 11
12.4	UNIT TANGENT, NORMAL, AND BINORMAL VECTORS	772-773	5, 7, 9, 15, 19
12.5	CURVATURE	778-781	5, 6, 9

Selected Exercises from Chapter 13: PARTIAL DERIVATIVES

Section Number	Section Name	Pages in the Book	Exercises
13.1	FUNCTIONS OF TWO OR MORE VARIABLES	812-815	1, 17, 23, 25, 51, 53, 65

13.2	LIMITS AND CONTINUITY	823-824	1, 3, 7, 9, 10, 11, 13, 15, 16, 23, 25, 34
13.3	PARTIAL DERIVATIVES	833-837	3, 5, 9, 11, 25, 27, 31, 33, 43, 82, 83, 97, 99 TF: 21, 22, 23, 24
13.5	THE CHAIN RULE	852-855	1, 3, 7, 13, 17, 21, 33, 52
13.6	DIRECTIONAL DERIVATIVES AND GRADIENTS	863-865	1, 5, 9, 11, 15, 19, 25, 26, 29, 33, 37, 41, 71, 72, 75
13.7	TANGENT PLANES AND NORMAL VECTORS	870-871	3, 5, 9, 11, 15
13.8	MAXIMA AND MINIMA OF FUNCTIONS OF TWO VARIABLES	879-883	9, 11, 15, 31, 33
13.9	LAGRANGE MULTIPLIERS	889-890	5, 7, 25

Selected Exercises from Chapter 14: MULTIPLE INTEGRALS

Section Number	Section Name	Pages in the Book	Exercises
14.1	DOUBLE INTEGRALS	900-902	1, 3, 5, 9, 13, 15, 29,
14.2	DOUBLE INTEGRALS OVER NONRECTANGULAR REGIONS	908-910	1, 3, 5, 7, 9, 10, 11, 12, 15, 17, 19, 21, 25, 39, 47, 53, 54, 59
14.3	DOUBLE INTEGRALS IN POLAR COORDINATES	916-917	1, 23, 25, 27, 30