King Abdulaziz University
Department of Mathematics

Academic year 1442
2nd Semester 2020-2021

Math 202 Syllabus-Doctors

Book: Calculus Early Transcendentals (Metric Version) by James Stewart 8th edition

Chapter	Section	Definitions & Theorems	Examples (Exercises)	HW على الطالبات	التمارين المحددة لأستاذات السيكشن
Chapter 3: Differentiation Rules	**1st +2nd week** **3.11 Hyperbolic Functions**	Definition of the Hyperbolic functions, hyperbolic identities, derivatives, inverse hyperbolic functions, their derivatives. Tables 1-6. Figures 1-3,8-10	1-5 (11,41,42)	1-21 (odd), 31-43 (odd),40,42	3,13,17,21,37,40,43
Chapter 4: Applications of Differentiation	**2nd + 3rd week** **4.4 Indeterminate forms and L'Hospital's Rule**	All Forms	1-10 (10,25,52,65)	9-67 (odd),10,52,56	33,41,43,47,49,55,56, 67
	3rd week **4.9 Antiderivatives**	Definition, Theorem 1, Table 2	1-4,6 (5,9,15)	1-47(odd), 59-63(odd)	29,33,37,47,59

Chapter 5 Integrals	**4th week** **5.1** **Areas and Distances**	The area problem: Figures 1-6, 8-13. Definition 2	1	____	____
	4th week **5.2** **The Definite Integral**	Definition 2. Note 1-3, 5. Figures 1-4. Theorem 3, 4. Equations 8-11. Properties 1-8.	1,4,6-8 (39,50)	17-20,35,39,41,42, 47-50 , 53,59,63	35,47,48,59,63
	5th week **5.3** **The Fundamental Theorem of Calculus**	Equation 1,5. FTC1, FTC2 (No proofs)	2,4-9 (35,63)	7-43 (odd) 59-63 (odd)	13,17,33,37,39,43
	5th week **5.4** **Indefinite Integrals and the Net Change Theorem**	Indefinite integral, Table1. Applications, Equations 2,3	1-6 (37,61)	5-17 (odd), 21-45 (odd),62	9,35,41,43,45,62
	6th week **5.5** **The substitution Rule**	Equations 1-7. The substitution rule. The substitution rule for definite integral. Symmetry	1-11 (29,30,44)	7-47 (odd), 53-73(odd),44,48	39,43,45,61,67,73

Chapter 7 Techniques of integration	**7th week** **7.1** **Integration by Parts**	Equations 1,2,6	1-5 (18, 37)	3-41 (odd)	7,15, 29,33,39,41
	8th week **7.2** **Trigonometric Integrals**	All strategies	1-9 (15,33)	1-49 (odd),46	11,19,31,37,39,45,49
	9th week **7.3** **Trigonometric Substitution**	All	1,3,4,5,7 (21)	5-29 (odd)	9,13, 19, 23
	10th week **7.4** **Integration of Rational function by Partial Fractions**	All	1-9 (49)	7-33 (odd), 39-51	25,29,39,41,43,47
	10th week **7.5** **Strategy for Integration**	All with "Can we integrate all continuous functions?"	1-5 (65,79)	1-81 (odd)	19,27,39,43,45,47,67, 69,81
	11th +12th week **7.8** **Improper Integrals**	Type 1 and 2. Comparison Theorem.	1-10 (37)	5-39 (odd), 49,50	15,23,35, 49,50

Chapter 6: Applications of integrals	**13th week** **6.1** **Areas Between Curves**	Rules 2,3	1,2,6,7	1-11 (odd)	1,3,11
	13th week **6.2** **Volumes**	Definition of volume. Disk and washer	2-6 (17)	1-17	7,9,14,16
Chapter 8: Further Applications of Integrations	**14th week** **8.1** **Arc Length**	Formulas 2-6	1,2,4 (16)	9-19, 35,37	14,16,19,35
	14th week **8.2** **Area of a Surface of Revolution**	Formulas 4-8	1-3 (14)	7-18	10,13,18

Note that Chapter 7 will be given before Chapter 6.

The total of 100 marks are distributed as follows:

Exam 1 = 25%

Exam 2 = 25%

Assignments = 20%

Final Exam = 30% (The whole course contents are included)

	Exam 1	Exam 2
Date	7th week	11th week
Curriculum	3.11, 4.4, 4.9, 5.1, 5.2 , 5.3, 5.4	5.5, 7.1, 7.2, 7.3, 7.4, 7.5

Remarks:

1. **Any student who misses 25% of the class will receive DN.**
2. **If one of the students is absent from one of the exams due to an acceptable excuse by the instructor, then the student will be allowed to take an alternative exam.**
3. **The requirements to get an IC grade due to being absent from the final exam are: an attendance of at least 80% of the total lectures, attendance of the first and second exams and an acceptable excuse by the Educational Affairs.**