



Math 202 “Students Syllabus”

Book: Calculus Early Transcendentals by James Stewart 7th edition

ملاحظة مهمة: سوف يتم تدريس الباب السابع قبل الباب السادس

| Chapter | Section | Definitions & Theorems | Examples (Exercises) | HW على الطالبات |
|--|---|--|-------------------------|------------------------------|
| Chapter 3: Differentiation Rules | 3.11 Hyperbolic Function | Definition of the Hyperbolic functions, hyperbolic identities, derivatives, inverse hyperbolic functions, their derivatives. Tables 1-6. Figures 1-3,8-10 | 1-5 (11,39,42) | 1-21 (odd), 31-45(odd),38,42 |
| Chapter 4: Applications of Differentiation | 4.4 Indeterminate forms and L'Hospital's Rule | All Forms | 1-9 (8,23,49,63) | 7-65 (odd),8,54 |
| | 4.9 Antiderivatives | Definition, Theorem 1, table 2 | 1-4,6 (5,9,15) | 1-47 (odd) |

| | | | | |
|--------------------------------|--|---|-----------------------|--|
| Chapter 5 Integrals | 5.1 Areas and Distances | The area problem: Figures 1-6,8-13. Definition 2 | 1 | |
| | 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 (39,50,59) | 17-20,35,39,41,42,47-50,53, 59-63 (odd) |
| | 5.3 The Fundamental Theorem of Calculus | Equation 1,5.FTC1,FTC2 (No proofs) | 2,4-9 (33,59) | 7-43 (odd), 55-59 (odd) |
| | 5.4 Indefinite Integrals and the Net Change Theorem | Indefinite integral, table1. Applications, equations 2,3 | 1-6 (37) | 5-17 (odd), 21-45 (odd) |
| | 5.5 The substitution Rule | Equations 1-7. The substitution rule. The substitution rule for definite integral. Symmetry | 1-11 (29,33,44) | 7-47 (odd), 53-73(odd), 24,40,44,48 |
| | | | | |

| | | | | |
|--|--|---|-----------------|----------------------|
| Chapter 7 Techniques of integration | 7.1 Integration by Parts | Equations 1,2,6 | 1-5 (14, 37) | 3-41 (odd) |
| | 7.2 Trigonometric Integrals | All strategy | 1-9 (17,33) | 1-49 (odd),44 |
| | 7.3 Trigonometric Substitution | All | 1-7 (29) | 5-29 (odd),24 |
| | 7.4 Integration of Rational function by Partial Fractions | All | 1-6,8,9 (49) | 7-33 (odd), 39-51 |
| | 7.5 Strategy for Integration | All with "Can we integrate all continuous functions?" | 1-5 (65,79) | 1-81 (odd) |
| | 7.8 Improper Integrals | Type 1 and 2. Comparison Theorem. | 1-10 (39) | 5-39 (odd), 41,49-55 |

| | | | | |
|--|--|---------------------------------------|----------------|------------------------|
| Chapter 6: Applications of integrals | 6.1 Areas Between Curves | Rules 2,3 | 1-2,5-6 | 1-17 (odd), 21-29(odd) |
| | 6.2 Volumes | Definition of volume. Disk and washer | 2-6 (13,15) | 1-17 |
| Chapter 8: Further Applications of Integrations | 8.1 Arc Length | Formulas 2-6 | 1,2,4 (11) | 7-15,17,19-20,33,35 |
| | 8.2 Area of a Surface of Revolution | Formulas 4-8 | 1-3 (13) | 5-16 |

The total of 100 marks are distributed as follows:

Exam 1 = 25%

Exam 1 = 25%

Assignments = 15%

Final Exam = 35% (The whole course contents are included)

| | <i>Exam 1</i> | <i>Exam 2</i> | <i>Alternative Exam</i> |
|-------------------|---|---|--|
| <i>Time</i> | 2-3:30 | 2-3:30 | 11-12:30 |
| <i>Date</i> | 7th week Wednesday 8-2-1440 | 11th week Thursday 7-3-1440 | 13th week Thursday 21-3-1440 |
| <i>Curriculum</i> | 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 | <u>Exam 1 or 2</u> |