

## Math 111(Integral Calculus)syllabus

The Book: Calculus, The classic Edition by Swokowski

### Chapter5

5.1: Definition (5.1), Theorem (5.2), Definition (5.3), Brief table of indefinite integrals (5.4), Theorem (5.5) with proof, Example 1, Theorem (5.6), Example 2, Example 3, Example 4, Example 5.

5.2: Method of substitution (5.7), Example 1, Example 2, Guidelines for changing variables in indefinite integrals (5.8), Example 3, Example 4, Example 5, Example 6, Example 7.

5.3: Summation notation (5.9), Example 1, Theorem (5.10), Theorem (5.11), Theorem (5.12), Example 3, Example 4, Definition (5.13), Example 6.

5.4: Definition (5.14), Example 2, Definition (5.16), Definition (5.17), Definition (5.18), Theorem (5.19), Example 4, Example 5, Example 6, Theorem (5.20).

5.5: Theorem (5.21), Example 1, Theorem (5.22), Theorem (5.23), Example 2, Theorem (5.24), Theorem (5.25), Example 3, Theorem (5.26), Corollary (5.27), Example 4, Mean value theorem for definite integrals (5.28) with proof, Example 5.

5.6: Fundamental theorem of calculus (5.30) with proof, Corollary (5.31), Example 1, Example 2, Example 3, Example 4, Theorem (5.33), Example 5, Example 6, Theorem (5.35) with proof, Example 8. Exercises (51,52,53,55).

5.7: Trapezoidal rule (5.36), Example 1, Simpson's rule (5.38), Example 2.

### Chapter 6:

6.1: Theorem (6.1). Guidelines for finding the area of an  $R_x$  region (6.3), Example 1, Example 2, Example 3. Guidelines for finding the area of an  $R_y$  region (6.4), Example 4.

**6.2:** Definition (6.5) but without the limit formula, Definition (6.6) but without the limit formula. Guidelines for finding the volume of a solid of revolution using disks (6.8), Example 1, Example 2. A brief description of the method of washers on page (317-318) including formula (6.9). Example 3, and Example 5.

**6.3:** Volume  $V$  of a cylindrical shell (6.10), Definition (6.11) but without the limit formula. Guidelines for finding the volume of a solid of revolution using cylindrical shells (6.12), Example 1, Example 3.

**6.5:** Definition (6.14), Example 1. Definition (6.15), Example 2 part (a). Definition (6.19) and the formula of the surface generated by revolving a graph about  $y$ -axis (in the end of page (340)), Example 4.

## **Chapter 7**

**7.2:** Definition 7.9, Theorem 7.10, Theorem 7.11 and the proof, examples 1, 2, 3, Theorem 7.12 and the proof, examples 4, 5, 6. Guidelines for logarithmic Differentiation 7.13.

**7.3** Theorem 7.14, Definitions 7.15 and 7.16, Approximate to  $e$  7.17, Definition 7.18, Theorem 7.19, Theorem 7.20 with proof, Theorem 7.21 with proof, Example 2.

**7.4** Theorem 7.23, Examples 1, 2, 3, Theorem 7.24, Example 4, Example 6 (reading) Theorem 7.25 with proof, examples 7, 8, 9, 10

**7.5** Laws of Exponents 7.27 with proof, Theorem 7.28 with proof, example 1 Theorem 7.29, Example 2, Definition of  $\log_a x$  (7.30) Theorem 7.31 with proof 4, 5, Definition of the general power function  $x^c$ ,  $c \in \mathbb{R}$  and its derivative, Example 5.

## **Chapter 8**

**8.1** Definition 8.1, 8.3, 8.5, 8.7 Example 3, 4

**8.2** Theorem 8.8, 8.9, Example 2, 3, 4

**8.3** Definition 8.10 with graph, Theorem 8.11 (with proof), Definition 8.12,

Theorem 8.13(with proof), Theorem 8.14(with proof), Example 1,  
Theorem

8.15, Example 3

8.4 Theorem 8.16(with proof),Theorem 8.17(with proof) Example 1,  
Theorem 8.18, Example 2,3

## Chapter 9

9.1:Formula 9.1,Examples 1,2,3,5,6,7,8

9.2:examples 1,2,3,4,5,6

9.3:Trigonometric Substitutions (9.4)

Examples 1,2,3,4

9.4:Examples 1,2,3,4,

9.5:Examples 1,2,3

9.6: Examples 1,2,Theorem (9.6) Example 3.

## Chapter 10

10.3: Definition (10.5) Examples 1,2,Definition (10.6) Example 3.

10.4: Definition, (10.7),(10.8) Examples 1,2,3,4.

## Chapter 13

13.1: Definitions (13.1),(13.2) Examples 1,2,3

13.3: Examples 1,2,3, 4, 5,6,7,8.

13.4:Theorem (13.11) Examples 1,2.

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