

KING FAHAD UNIVERSITY OF PETROLEUM AND MINERALS
DEPARTMENT OF MATHEMATICS SCIENCES

Syllabus: MATH 102
 Semester II, 2001-2002 (012)
 (A. Al-Shallali)

Course # and Title	: Math 102 – Calculus II
Textbook	: Calculus, A New Horizon by Howard Anton, Sixth Edition (1999)

Week	Date	Sec	Material
1	Jan 26 – 30	7.1	An Overview of the Area Problem
		7.2	The Indefinite Integral; Integral Curves
2	Feb 2 – 6	7.3	Integration by Substitution
		7.4	Sigma Notation
		7.5	The Definite Integral
3	Feb 9 – 13	7.5	Continued
		7.6	The Fundamental Theorem of Calculus
		7.8	Evaluating Definite Integrals by Substitution
ID AL-ADHA Vacation : February 16 – March 1			
4	Mar 2 – 6	7.9	Logarithmic Functions from the Integral Point of View
		8.1	Area Between Two Curves
Saturday, March 9 is the suggested time for the first major exam			
5	Mar 9 – 13	8.2	Volumes by Slicing; Disks and Washers
		8.3	Volumes by Cylindrical Shells
6	Mar 16 – 20	8.4	Length of a Plane Curve
		8.5	Area of a Surface of Revolution
7	Mar 23 – 27	8.8	Hyperbolic Functions and Hanging Cables*
		9.2	Integration by Parts**
Wednesday, March 27 is the last day for dropping courses with grade of "W"			
8	Mar 30 – Apr 3	9.3	Trigonometric Integrals
		9.4	Trigonometric Substitutions
9	Apr 6 – 10	9.5	Integrating Rational Functions by Partial Fractions
		9.6	Special Substitutions (only pp 546–549)
Wednesday, April 17 is the last day for withdrawal from all courses with grade of "W"			
10	Apr 13 – 17	9.8	Improper Integrals
		11.1	Sequences
11	Apr 20 – 24	11.2	Monotone Sequences
		11.3	Infinite Series
Monday, April 22 is the suggested time for the second major exam			
12	Apr 27 – May 1	11.4	Convergence Tests
		11.6	The Comparison; Ratio and Root Tests
13	May 4 – 8	11.7	Alternating Series; Conditional Convergence
		11.8	The Power Series
14	May 11 – 15	11.5	Taylor and Maclaurin Series
		11.9	Convergence of Taylor Series; Computational Methods
Saturday, May 18 is the last day for withdrawal from all courses with grade of "WP/WF"			
15	May 18 – 22	11.10	Differentiating & Integrating Power Series; Modeling with Taylor Series & Catching up

* Delete the Inverses of Hyperbolic Functions (pp 505–507). All the integrals at the bottom of page 507 can be done later using ch. 9.

** Students are advised to go over sec 9.1 which's "a review of the familiar integration formulas" before they start ch 9.

- The date and place of the final exam (comprehensive) will be announced later.
- KFUPM policy with respect to **attendance** will be enforced.

Math 102 — Homework and Problem Session

Sec	Homework	Problem Session
7.1	2,4,6	1,5
7.2	2(a),4,7(c),12,20,23,29,42,43,50	1,10,24,33,51
7.3	4(c,d,e),14,18,26,34,36,46	17,22,33,42,49
7.4	2(a,b,d),5,8,12,14(b,d),21,24,28,42,44	9,19,27,45,50
7.5	4,20,22,24,26,28,30,32,34,36	5,19,25,35,37,43
7.6	6,23,24,27(b),36,39,41,44,56	17,22,28,37,49,55
7.8	8,12,14,22*,28,30,37,42,44,53	9,15,31,36,43
7.9	3(c),8,12(a),23,33,36,42	4(a),22(b),30,39,43
8.1	4,6,13,16,26,32	15,27
8.2	4,6,9,20,26,29,44	13,22,27,31,47
8.3	4,11,16,21,25	12,15,27
8.4	7,11,14,19,25	8,13,26
8.5	3,8,20,24,27	7,21,26
8.8	3(b,c),12,18,31,37,50,70	4(b,c),15,33,38,51,53
9.2	8,13,20,24,39,50(b),53(b)	9,17,22,31
9.3	10,14,25,32,43,52,64	15,31,44,49,55
9.4	8,16,19,20,24,26,38,46	4,25,32,42,45
9.5	5,12,19,26,31,34,35,41	7,23,33,42
9.6	57,60,67,70	61,66,72
9.8	2(b),8,12,15,24,28,32,41,50(a),52,56(b)	7,30,40,50(b),62
11.1	4(b),8,15,16,22,28,33,46	10,21,35,36,44,49
11.2	4,11,15,23,26,27,30	12,17,24,28
11.3	1,9,14,20,23,26(b),28,38	7,8,18,25(b),27(b),33
11.4	1(b),4(b,c),8(b),19,26,36	2(b),5(c),21,32(c)
11.6	2(a),3(b),9,15,20,35,44,52,54	4(b),14,28,43,46
11.7	4,8,11,22,26,32,36	3,7,12,17,29,31
11.8	3,6,10,13,18,24,30,35,38	2,5,9,22,26,31
11.5	3,7,12,17(a),23,26	4,11,20,24
11.9	1,5,10,12,15	2,6,9,11,16
11.10	3,6(b,d),10(a),16(a),18,21(b),25(a),29	5(a,c),10(b),16(b),17,22(a),24(b),30

* If $f(x)$ is continuous over $[a, b]$ then the **average value** of f on $[a, b]$ is equal to $\frac{1}{b-a} \int_a^b f(x) dx$
 (This definition is from sec 7.7 \notin our syllabus)

- • Dear student: the given list of homework problems is not enough to be a good student in mathematics, you must practice and solve as many problems as you can.