

Textbook : Thomas' Calculus, Eleven Edition (2008), Authors : Weir, Hass and Giordano

Chapter Title	Section	Lectures			HW	Week & dates
		Definitions & Theorems	Examples	Exercises		
	4.8 Anti-derivatives	Students studied this subject in math 110. We just review the definition of indefinite integral page 312 to be ready for chapter 5				1 st 16/10/31 to 20/10
Chapter 5 Integration	5.1 Estimating with Finite Sums	Area	1	1(a,c)	2-8	1 st 16/10/31 to 20/10
	5.2 Sigma Notation and Limits of Finite Sums	Algebra rules for finite sums. Riemann Sums.	1-6	19	2-27(odd)	2 nd 23/10/31 to 27/10
	5.3 The Definite Integral	Definmition page 344. Theorem 1 & 2. Properties of definite integrals, figure 5.11. Definition page 349	2-4	9	1,3, 9-21	2 nd 23/10/31 to 27/10
	5.4 The Fundamental Theorem of Calculus	Theorem 4 (part 1 and 2). Total area and its summary	3, 5- 8	11, 27	1-41(odd), 43-46	2 nd 23/10/31 to 27/10
	5.5 Indefinite Integrals, and Substitution Rule	Rule 1, Theorem 5	1-8	11 so answer is not unique	1-47(odd)	2 nd 23/10/31 to 27/10
	5.6 Substitution and Area Between Curves	Theorem6, Theorem 7, Area between curves	1-7	32	1-70	3 rd 1/11/31 to 5/11
	Practice Exercise	Pages: 388-390		4, 50	3,9-14,45- 70	

Chapter 6 Applications of definite integrals	6.1 Volumes by Slicing and Rotation About an Axis	Definition of Volume, Disk Method, Washer Method	1,4-10	17, 39	13-47(odd)	3 rd 1/11/31 to 5/11
	6.2 Volumes by Cylindrical Shells	Shell Method, figure 6.19 and 6.20	1-3	7, 15	1-23(odd)	4 th 8/11/31 to 12/11
	6.3 Lengths of Plane Curves	Length of Parametric curve, Length of curves $y = f(x), x = g(y)$	1-4	10	1-23(odd)	4 th 8/11/31 to 12/11
	6.4 Moments and Centers of Mass	Moment, Mass, and Center of Mass of a thin Rod, page 427	1,2	–	5-9	5 th 15/11/31 to 19/11
	6.5 Areas of Surfaces of Revolution	Surface area for revolution Definitions pages 438, 439, and 440	1-3	–	2- 4, 13-20	5 th 15/11/31 to 19/11
	6.6 Work	Definition(Work)	2, 3	–	1-4	5 th 15/11/31 to 19/11
	6.7 Fluid Pressures and Forces	Equations(1,2,4)	1	–	–	5 th 15/11/31 to 19/11
	Practice Exercise	Pages: 462,463		32	17-21, 31- 35	
Chapter 7 Transcendental Functions	7.1 Inverse Functions and Their Derivatives	All Definitions, Theorem 1, figures 7.1 to 7.8	1-5	16, 32	1-31	5 th 15/11/31 to 19/11
	7.2 Natural Logarithms	All Definitions, Theorem 2, figure 7.9	1-6	66	1-68	6 th 22/11/31 to 26/11
	7.3 Exponential Function	All Definitions, Theorem 3,4	1-9	10	1-62	6 th 22/11/31 to 26/11
	7.4 a^x and $\log_a x$	Equations(1-5), Indeterminate powers	1-7	26, 44	1-74, 91- 100	7 th 29/11/31 to 4/12
	7.5 Exponential Growth and Decay	Definition of the law of exponential change	1	–	–	8 th 16/12/31 to 18/12

The eighth week has
just two days Monday
and Wednesday

	7.6 Relative Rates and Growth	Definition page 512 only	1-3	1(a,c), 5(a,c)	1-8	8 th 16/12/31 to 18/12
	7.7 Inverse Trigonometric Functions	All Definitions, Formulas, and figures	1-5, 7, 9-15	30	1-120(odd)	9 th 21/12/31 to 25/12
	7.8 Hyperbolic Functions	All Definitions, Tables(7.5-7.11), all figures.	1-3	21, 35, 51	1-60(odd)	9 th 21/12/31 to 25/12
	Practice Exercise	Pages:547-548		27, 90	1-98(odd)	10 th 28/12/31 to 2/1/32
Chapter 8 Techniques of integration	8.1 Basic Integration Formulas	Table 8.1, 8.2	1-7	3, 37, 45, 47	1-82 (odd)	10 th 28/12/31 to 2/1/32
	8.2 Integration by parts	Equations 1-3, Tabular Integration, Reduction Formulas(Ex.er.39-42)	1-8	5, 29	1-30(odd)	10 th 28/12/31 to 2/1/32
	8.3 Integ. of Rational. Functions by Partial Fractions	Methods of partial fractions and Integration	1-9	9, 21, 29	3-33(odd)	11 th 5/1/32 to 9/1
	8.4 Trigonometric Integrals	Product of powers of $\sin x$ and $\cos x$, $\tan x$ and $\sec x$, Eqns 3-5	1-7	3, 17, 23, 37	1-35(odd)	12 th 12/1/32 to 16/1
	8.5 Trigonometric Substitutions	Three Basic Subs	1-5	3, 35, 37	1-35(odd)	13 th 19/1/32 to 23/1
	8.6 Integral Tables	Integrals tables, Reduction Formulas	1-8	23	1-37(odd), 44, 54, 74	13 th 19/1/32 to 23/1
	8.8 Improper Integrals	Improper Integrals (Types I,II), Theorems(1,2)	1-12	3, 25, 35	1-64 (odd)	14 th 26/1/32 to 1/2
	Practice Exercise	Pages: 634-637		149, 186	1-125 (odd) 135- 215(odd)	14 th 26/1/32 to 1/2

Remarks:

1. We emphasize that each student should buy the textbook from the first day of classes, if he or she does not have it, because we will use its examples and problems to teach this course, and each student need to have a book- access-code in order to log-in to the home-work system on-line.
2. All examples and exercises in the lectures part must be solved by instructor.
3. We emphasize about the concept of each subject in the syllabus. Some students know how to do the calculation but do not know the meaning or the concept of the calculation is. Every exam will contain some problems about the concept of the materials and the exams will be in multiple choice (MC) .
4. *Students should exercise all problems in HW column. More than 50% of the problems of the exams will be similar to those problems and examples.* Also the assigned homework will be from those problems and should be submitted online on the due date.
5. Marks distribution
 - a. First Exam (90 Min; 25 Marks); Second Exam (90 Min; 25 Marks); Final Exam (120 Min; 40 Marks)
 - b. Homework (10 Marks)

Home-works will start on about the third week. There will be ten home-works, each contains three to four problems, each problem will have three tries, and the last home-work due date will be the end of the 14th week as the first semester contains 14 weeks and a half week.