

DEPARTMENT OF MATHEMATICS
COLLEGE OF STATEN ISLAND

MTH 341 ADVANCED CALCULUS I

1/2010 JPC

Text: Advanced Calculus, Angus Taylor and W. Robert Mann (3rd edition)
 Publisher: John Wiley & Sons, Inc., 1983, ISBN: 0-471-02566-6 (paperback)

Note: Each lesson is a 2 hour class period

Date	Lesson	Section	Topic	Exercises
2/1	1	1. 1.1	Introduction Functions and Limits	p.10/1a,b,c,d,e,f; 2a,b,c,e,
2/3	2	1.1	Continuity and Limits	p. 10/3d,e,5,6,7 p.11/9,12,19,20
2/8	3	1.11	Derivatives	p.18/1a,b; p.19/12,14,16;
2/10	4	1.12	Max & Min	p.24/1,2,7;p.25/12,16a,b
2/17	5	1.2	Mean Value Theorem for Derivatives	p.30/1,4,8a;
2/18	6	1.4 1.5	Inverse of Differentiation Definite Integrals	p.38/3 p.43/1,a,b,4,5
2/22	7	1.51 1.52	Mean Value Theorem for Integrals Variable Limits of Integration	p.46/1 p.49/1a,b,c,2a,b,c,5
2/24	8	1.53	Integral of a Derivative	p.51/1a,b,2,3a,b
3/1	9	1.6 1.61 1.62	Limits Limits of Functions Limits of Sequences	p.57/1; p.58/6,10a,b,c,d p.65/1a,b,c,d,2,5;p.66/21
3/3	10	1.63 1.64	Limit Defining a Definite Integral Limits of sums, products, quotients	p.58/1 p.70/1,9
3/8	11		Review	
3/10	12		Test #1 (chapter 1)	
3/15	13	2.1 2.2 2.3	Field of Real Numbers Inequalities and Absolute Value Math Induction	p.75/1,2,5
3/17	14	2.4 2.5 2.6	Axiom of Continuity Rational and Irrational Numbers Axis of Reals	p.79/1,2,3
3/22	15	2.7 2.8	Least Upper Bounds Nested Intervals	p.82/1,3,5 p.83/4,5; p.84/9
3/24	16	3 3.1	Continuity Bounded Functions	p.86/1,2,3,4 p.88/1,4a,b,c
4/7	17	3.2 3.3	Extreme Values Intermediate Value Theorem	p.90/1,2,5

4/12	18	5 5.1	Functions of Several Variables Point Sets	p.121/1; p.122/3,4,5
4/14	19	5.2 5.3 5.4	Limits Continuity Modes of Representing a function	p.124/1,3,8,9 p.127/1,3
4/19	20		Review	
4/21	21		Test #2 (chapters 2,3,5)	
4/26	22	6 6.1	Partial Derivatives Implicit Functions	p.134/1,3
4/28	23	6.2 6.3	Geometrical Significance Of Partial Derivatives Max and Min	p.138/1,2,6 p.143/1,3; p.144/16,17
5/3	24	6.5 6.52	Composite Functions and The Chain Rule 2 nd derivative by the Chain Rule	p.160/2,4,7 p.166/1; p.167/3,7,9a
5/5	25	6.6 6.7	Derivatives of Implicit Functions Extremal Problems with Constraints	p.176/1,2,3 p.186/1,4
5/10	26	7 7.1	Theorems of Partial Differentiation Sufficient Conditions for Differentiability	p.187/28; p.188/29 p.199/1,4
5/12	27	7.2 7.6	Changing the Order of Differentiation Sufficient Conditions for a Relative Extreme	p.201/1 p.220/1b,f
5/17	28		Review (Chapters 1,2,3,5,6,7)	