

MATH 158

SPRING 2015

Schedule of Lectures and Exams (subject to change)

These lectures are based on the textbook *Applied Calculus for the Managerial, Life, and Social Sciences, Enhanced Canadian Edition* by Tan, Menz, Ashlock from Nelson.

WEEK	CLASS	DATE	SECTIONS grouped by topic	LECTURES
1	1	07-Jan		Course overview. Review of the derivative.
	2		8.1	Antiderivative and the Rules of Integration
2	3	12-Jan	8.2	Integration by Substitution
	4	14-Jan	8.3	Area and the Definite Integral
	5		8.4	The Fundamental Theorem of Calculus
3	6	19-Jan	8.5	Evaluating Definite Integrals
	7	21-Jan	8.6	Area between Two Curves
	8		8.7	Applications: (i) Average of a function in 8.5 and (ii) Lorenz Curves and Gini Index in 8.7
4	9	26-Jan	9.1	Integration by Parts
	10	28-Jan	9.5	Improper Integrals
	11		Review	
5	12	02-Feb	MIDTERM 1	
	13	04-Feb	9.4	Numerical Integration
	14		9.3	Tables of integrals and solutions using Maple (diff, int, eval, evalf, plot, solve)
6		09-Feb	Family Day	
		11-Feb	Reading Break	
7	15	16-Feb	10.1	Functions of several variables (Maple plot3d - surface and contour plots)
	16	18-Feb	10.2	Partial derivatives intro (Maple plot3d and spacecurve)
	17		10.2	Partial Derivatives

8	18	23-Feb	10.3	Maxima and Minima of Functions of Several Variables
	19	25-Feb	10.4	The Method of Least Squares
	20			
9	21	02-Mar	10.7	Double integrals
	22	04-Mar	10.8	Applications of double integrals
	23		REVIEW	
10	24	09-Mar	MIDTERM 2	
	25	11-Mar	11.1	Differential equations
	26		11.2	Separation of variables
11	27	16-Mar	11.3	Applications of separable differential equations: Exponential growth, logistic growth, GIC
	28	18-Mar	11.3	Applications of DEs : NLC, the falling body problem, disease spread
	29		14.1	Taylor polynomials
12	30	23-Mar	14.2	Infinite sequences
	31	25-Mar	14.3	Infinite series
	32		14.4	Series with positive terms
13	33	30-Mar	14.5	Power series and Taylor series (animation of convergence)
	34	01-Apr	13.1	Probability distributions of random variables
	35		13.2	Expectation and the median
14		06-Apr	EASTER MONDAY	
	36	08-Apr	13.2	Variance and standard deviation
	37		13.3	Normal distributions
	38	13-Apr	REVIEW	
Friday April 17, 19:00-22:00			FINAL EXAM	