MATH 158

SPRING 2011

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
2	1	Jan-10		Course overview. Review of the derivative.
	2	Jan-12	8.1	Antiderivative and the Rules of Integration
	3		8.2	Integration by Substitution
3	4	Jan-17	8.3	Area and the Definite Integral
	5	Jan-19	8.4	The Fundamental Theorem of Calculus
	6		8.5	Evaluating Definite Integrals
4		Jan-24	8.6	Area between Two Curves
	7	Jan-26	9.1	Integration by Parts
	8		9.4	Numerical Integration
5	9	Jan-31	9.5	Improper Integrals
	10	Feb-02	8.7	Applications: (i) Average of a function in 8.5 and (ii) Lorenz Curves and Gini Index in 8.7
	11			**REVIEW of the FTC and assignment 1 for midterm 1**
6	12	Feb-07		**MIDTERM 1**
	13	Feb-09	9.3	Tables of integrals and solutions using Maple (diff, int, eval, evalf, plot, solve)
	14		10.1	Functions of several variables (Maple plot3d - surface and contour plots)
			10.2	Partial derivatives intro (Maple plot3d and spacecurve)
		Feb-14-18		**University is closed due to Reading Break**
7	15	Feb-21	10.2	Partial Derivatives
	16	Feb-23	10.3	Maxima and Minima of Functions of Several Variables
	17		10.4	The Method of Least Squares

	18	Feb-28	10.4	The Method of Least Squares
8	19	Mar-02	10.7	Double integrals
	20		10.8	Applications of double integrals
	21	Mar-07	11.1	Differential equations
9	22	Mar-09	11.2	Separation of variables
	23		11.3	Applications of separable differential equations: Exponential growth, logistic growth, GIC
	27	Mar-14	11.3	Applications of DEs : NLC, the falling body problem, disease spread
10	28	Mar-16	14.1	Taylor polynomials
	29			**REVIEW**
	24	Mar-21		**MIDTERM 2**
11	25	Mar-23	14.2	Infinite sequences
	26		14.3	Infinite series
	30	Mar-28	14.4	Series with positive terms
12	31	Mar-30	13.1	Probability distributions of random variables
	32		13.2	Expectation and the median
	33	Apr-04	14.5	Power series and Taylor series (animation of convergence)
13	34	Apr-06	13.2	Variance and standard deviation
	35		13.3	Normal distributions
14	36	Apr-11		**Exam info, MATH 232, Maple and MACM 204, evaluation**
	37	Apr-13		**REVIEW**
Thursday April 14, 19:00-22:00				**FINAL EXAM**