MA 3110 – INTERMEDIATE CALCULUS (3-0)
SYLLABUS

Text: K.G. Binmore, *Calculus* (Cambridge University Press)

HOURS	TOPIC	SECTION
1-1	Vectors and Matrices; geometry in $\mathcal{R}^n$	1.23 – 1.31
2-3	Differentiation; functions of several variables	2.1 – 2.2, 2.10 – 2.21
3-6	Stationary Points; local and constrained, Lagrange method	3.9 – 3.18
4-10	Vector Functions; 1st and 2nd derivatives, Taylor polynomial	4.1 – 4.22
4-14	Maxima and Minima; quadratic forms, positive & negative definite	5.1 – 5.14
3-17	Inverse Functions; local inverse, derivative, change coordinates	6.10 – 6.18
3-20	Implicit Functions; local implicit function, derivative	7.1 – 7.3
2-22	Differentials; local variables, small changes	8.1 – 8.6
2-24	Sums and Integrals; convergence, differentiating integrals	9.25 – 9.35
3-27	Multiple Integrals; change variables, Jacobian	10.7 – 10.15
2-29	Differential Equations; brief introduction	11.1 – 11.8
4-33	Review, Exams and Holidays	

Note: sections of the text that are skipped in the listing above are review material and should be read by students needing review.

Ca 5/99