

**MA 1114 — SINGLE VARIABLE CALCULUS II WITH MATRIX  
ALGEBRA (4-0)  
Syllabus**

**Prerequisite:** MA1113 or equivalent.

**Text:** *Calculus (Early Transcendentals)*, 5<sup>th</sup> Edition, James Stewart (Brooks Cole 2003, ISBN 0-534-39321-7)

**Text:** *Linear Algebra with Applications*, 6<sup>th</sup> edition, Steven J. Leon, (Prentice Hall 1997, ISBN 0-13-033781-1)

<u>HOURS</u>	<u>TOPIC</u>	<u>SECTION</u>
2-2	Areas Between Curves, Volumes	S 6.1-6.2
2-4	Volumes by Cylindrical Shells	S 6.3
1-5	Work & Average Value of a Function	S 6.4-6.5
2-7	Trigonometric Integrals & Trigonometric Substitutions	S 7.2-7.3
1-8	Partial Fractions	S 7.4
1-9	Improper Integrals	S 7.8
1-10	Sequences	S 11.1
1-11	Series	S 11.2
1-12	Comparison Tests	S 11.4
1-13	Alternating Series	S 11.5
2-15	Absolute Convergence, Ratio and Root Test	S 11.6
1-16	Power Series	S 11.8
2-18	Representation of Functions as Power Series	S 11.9
2-20	Taylor and Maclaurin Series	S 11.10
1-21	Binomial Series	S 11.11
1-22	Applications of Taylor Polynomials	S 11.12
3-25	Complex Arithmetic	S App. G
2-27	Systems of Linear Equations	L 1.1
3-30	Row Echelon Form	L 1.2
3-33	Matrix Algebra	L 1.3
1-34	Elementary Matrices (skip Triangular Factorization)	L 1.4
1-35	The Determinant of a Matrix	L 2.1
1-36	Properties of Determinants	L 2.2
1-37	Cramer's Rule	L 2.3
3-40	Eigenvalues and Eigenvectors	L 6.1
5-45	Exams, Review and Holidays	