MA 1115 — MULTIVARIABLE CALCULUS (4-0)
Syllabus

Prerequisite: MA1114 or equivalent.
Text: *Calculus (Early Transcendentals)*, 5th Edition, James Stewart (Brooks Cole 2003, ISBN 0-534-39321-7)

HOURS	TOPIC	SECTION
1-1	Curves Defined by Parametric Equation	10.1
2-3	Tangents & Areas, Arc Length & Surface Area	10.2
2-5	Polar Coordinates	10.3
1-6	Conic Sections	10.5
1-7	Three-Dimensional Coordinate Systems, Vectors	12.1, 12.2
1-8	Dot Products	12.3
1-9	Cross Products	12.4
2-11	Equations of Lines and Planes	12.5
1-12	Cylinders and Quadric Surfaces	12.6
1-13	Cylindrical and Spherical Coordinates	12.7
1-14	Vector Functions and Space Curves	13.1
1-15	Derivatives and Integrals of Vector Functions	13.2
1-16	Arc Length and Curvature	13.3
1-17	Motion in Space: Velocity and Acceleration	13.4
1-18	Functions of Several Variables	14.1
1-19	Limits and Continuity	14.2
1-20	Partial Derivatives	14.3
1-21	Tangent Planes and Linear Approximations	14.4
2-23	Chain Rule	14.5
2-25	Directional Derivatives and Gradient Vector	14.6
2-27	Maximum and Minimum Values	14.7
2-29	Lagrange Multipliers	14.8
1-30	Double Integrals over Rectangles	15.1
1-31	Iterated Integrals	15.2
2-33	Double Integrals over General Regions	15.3
1-34	Double Integrals in Polar Coordinates	15.4
2-36	Triple Integrals	15.7
2-38	Triple Integrals in Cylindrical and Spherical Coordinates	15.8
2-40	Change of Variables in Multiple Integrals	15.9
5-45	Exams, Review and Holidays	