

# Math 2110 Lecture 001 Schedule (Tentative)

## Vectors and the Geometry of Space

Aug 25-29	12.1	Coordinate Systems (3-D)	# 1,3, 7, 9, 11, 14, 15, 18, 20, 23, 25, 27, 29, 35
	12.2	Vectors	# 1, 4, 6, 7, 9, 13, 15, 17, 21, 23, 25, 27, 35, 39, 40
	12.3	Dot Products	# 1, 3, 5, 7, 9, 11, 12, 14, 15, 19, 23, 26, 28, 37, 39, 44, 49, 50, 51, 52
Sept 1-5	12.4	Cross Products	# 1, 5, 9, 10, 11, 15, 18, 29, 31
	12.5	Lines and Planes	# 1, 3, 5, 7, 9, 13, 14, 17, 19, 21, 25, 29, 33, 37, 39, 41, 43, 46, 49, 51, 55, 59, 61, 73

## Vector Functions

Sept 8-12	13.1	Vector Functions	# 1, 3, 5, 7, 9, 11, 15, 17, 19-24, 41, 42
	13.2	Derivatives and Integrals	# 1, 2, 3, 5, 9, 11, 13, 15, 17, 19, 23, 29, 33, 35, 37, 39, 49, 50
	13.3	Arc Length and Curvature	# 1, 2, 3, 24, 30, 31, 33, 36, 37
	13.4	Motion in Space	# 1, 2, 3, 5, 7, 9, 11, 15, 19, 33

## Hour Exam One: Monday, 14 September 2008

## Partial Derivatives

Sept 15-19	14.1	Functions of Several Variables	# 1, 2, 5, 6, 11, 15, 19, 30, 32, 33, 34, 35, 37, 39, 55-60
	14.2	Limits and Continuity	# 1, 2, 5, 6, 7, 9, 11, 12, 13, 15, 17, 18, 19, 39, 40
Sept 22-26	14.3	Partial Derivatives	# 1, 3, 4, 5, 6, 7, 8, 9, 10, 15, 17, 23, 33, 37, 39, 41, 45, 46, 51, 54, 58, 61, 66, 69, 87, 95
	14.4	Approximations	# 1, 3, 11, 13, 19, 22, 25, 27, 31, 35, 37
Sept 29-3	14.5	Chain Rule	# 1, 3, 7, 9, 13, 15, 17, 21, 27, 36, 42, 43, 45, 47, 55
	14.6	Directional Derivatives	# 1, 2, 4, 5, 7, 11, 17, 21, 28, 34, 36, 38, 39, 47, 52, 55, 63
Oct 6-10	14.7	Max and Min Values	# 1, 3, 5, 7, 9, 13, 29, 31, 34, 35, 37, 38, 41, 43, 54, 55
	14.8	Lagrange Multipliers	# 1, 3, 5, 6, 7, 9, 21, 25

## Hour Exam Two: Monday, 13 October 2008

## Multiple Integrals

Oct 13-17	12.6	Cylinders and Quadratics	# 1, 3, 4, 5, 6, 7, 8, 21-28, 29, 31, 33, 35, 41, 42, 43, 44
	15.1	Double Integrals (Rectangles)	# 1, 3, 5, 9, 11, 13, 14
Oct 20-24	15.2	Iterated Integrals	# 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 21, 22, 25, 35, 38
	15.3	Double Integrals (General)	# 1, 3, 5, 7, 9, 14, 15, 17, 19, 20, 23, 25, 33, 34, 39, 41, 43, 45, 49, 60, 61
Oct 27-31	15.4	Double Integrals (Polar)	# 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 15, 17, 19, 21, 22, 29, 36
	15.5	Applications	# 1, 3
	15.6	Triple Integrals	# 3, 5, 10, 14, 15, 17, 20, 25, 27, 28, 33, 53
Nov 3-7	15.7	Cylindrical Coordinates	# 1, 2, 3, 4, 5, 6, 7, 8, 15, 16, 17, 19, 21, 27, 28
	15.8	Spherical Coordinates	# 1, 2, 3, 4, 5, 6, 7, 8, 15, 17, 18, 19, 20, 21, 23, 25, 26, 28, 39, 40, 44
	15.9	Change of Variables	# 1, 2, 3, 5, 7, 9, 11, 13, 17, 19, 23

## Hour Exam Three: Monday, 10 November 2008

## Vector Calculus

Nov 10-14	16.1	Vector Fields	# 1, 5, 11-14, 15-18, 29-32, 33
	16.2	Line Integrals	# 1, 3, 7, 17, 18, 19, 21
Nov 17-21	16.3	Fundamental Theorem	# 1, 2, 3, 5, 7, 9, 11, 13, 20, 23, 24
	16.4	Green's Theorem	# 1, 3, 7, 9, 11, 15
Dec 1-5	16.5	Curl and Divergence	# 1, 3, 9, 10, 11, 12, 13, 15, 17, 19, 20
TBA	16.6	Parametric Surfaces	# 1, 3, 13-18, 19, 21, 23, 25, 37
	16.7	Surface Integrals	# 1, 5, 7, 9
	16.8	Stokes' Theorem	# 1, 2, 5, 9
	16.9	Divergence Theorem	# 1, 2, 3, 7, 8