

DEPARTMENT OF MATHEMATICS

SYLLABUS

Course # & Name: MAT 125B: Real Analysis

Recommended Text(s) & Price: William Wade's "An Introduction to Analysis, 3rd Edition" (Prentice Hall, \$120.00)

Prepared by: <u> R. Vershynin, D. Fuchs, A. Krener, A. Thompson, B. Temple (Updated by Eric Rains) </u>	UPC Approval Date: <u> Updated version approved 4/24/2007 </u>
---	--

Lecture(s)	Sections	Comments/Topics
	Chapter 5	Riemann integration
2	1	Definition of Riemann integral
2	2	Riemann's definition; properties
2	3	Fundamental theorem of calculus
2	4	Improper integrals
	Chapter 11	Multivariate differentiation
2	1	Restricting to one variable
	Chapter 8	
1	2	Linear transformations
	Chapter 11	Multivariate differentiation (continued)
2	2	Differentiability
1	3	Relations to univariate concepts
2	4	Chain rule
2	5	Multivariate MVT and Taylor's theorem
2	6	Inverse function theorem
	Chapter 12	Multivariate integration
2	1	Integrating indicator functions
2	2	Multivariate Riemann integral
2	3	Iterated integrals
2	4	Change of variables

Additional Notes:

Total number of lectures = 28.
