MATH 211 (Calculus for Chemists

Credits 3(2+1)

Pre-requisites: Differential calculus (MATH101)

Note: No Proofs are required			
Text book # 1: Calculus for Biology and Medicine, 3rd edition, By Claudia Neuhauser **Text book # 2: Calculus, The Classic Edition, By Earl Swokowski**			
Text Book	**Topics**	**Section number and contents**	**Planned Contact Weeks (3 hours/week)**
book # 1	**Ch. 1: Preview and Review**	**1.1.6:** Complex Numbers and Quadratic Equations: All	12 weeks
	Ch. 5 : Applications of Differentiations	5.8: Definition p.267, Corollary 2,3, Ex 1,2	
	Ch. 6 : Integration	6.1.1 The Area Problem: Brief explanation of the concept, Theorem p.283 6.1.3: Properties p.286 & 287 & 289 6.2.2: Ex. 6, 7, 8, Table 6.1, Ex. 9,10 6.2.3: FTC Part II p.302, Ex 11→15 6.3.1 Areas (between curves): Box p.308, Ex 2,3, Box p.311 6.3.4 The Volume of a Solid: Disk method p.316, Ex. 8,9,10	
	Ch. 7 : Integration Techniques	7.1.1: Substitution Rule p.326, Ex 1→5, Substitution Rule p.329, Ex 7→10 7.2.1: Integration by parts 7.3 Rational Functions and Partial Fractions: Ex.1→5	

	Ch. 9: Linear Algebra and Analytic Geometry	9.1.1 Linear System: All except Ex 5 9.1.2 Method of Gaussian elimination, Ex 5, Definition p.439, Ex 8 9.2.1 Basic Matrix Operations: All 9.2.2 Matrix Multiplication: All except Ex 8 9.2.3 Inverse Matrices (Determinants): Definition p.450, Theorem p. 454, Definition 454, Theorem p. 455, Ex 13 9.2.4 Computing Inverse Matrices: Ex 15, 16 9.4.1 Points and Vectors in Higher Dimensions: All except vector representation	
	Ch. 10: Multivariable Calculus	10.1: Definition p.504, Ex 1 10.3.1: Definition p.519, Ex 1, 2, 3 10.3.2: Ex 5 10.3.3: Ex 6, The Mixed Derivative Theorem	
book # 2	**Ch. 13: Plane Curves and Polar Coordinates**	13.1: Plane Curves: Definition 13.1 & 13.2, Ex 1→4 13.3 and 13.4: Polar Coordinates: Introduction p. 658-659, Ex 1→4, then give Theorem 13.11 & Guidelines for finding the area of an R_θ region(13.12) in section 13.4, then use this to find the area in the previous examples(Ex 1→4) Relationship between rectangular and polar coordinates 13.8, Ex 6,7,8.	2 weeks