Tennessee Technological University
Mathematics Department

MATH 4710/5710: Vector Analysis

I. COURSE DESCRIPTION FROM CATALOG:

The algebra and the differential and integral calculus of vectors, applications to geometry and mechanics. Lec. 3. Cr. 3.

II. PREREQUISITE(S):

C or better in MATH 2110

II. COURSE OBJECTIVE(S):

This course will cover the algebra and calculus (differential and integral) of vectors, and applications of these topics.

III. TOPICS TO BE COVERED:

Differentiation, including Inverse Function and Implicit Function Theorems, Integration, including the Change of Variables Theorem, Differential Forms, Stoke's Theorem

V. ADDITIONAL INFORMATION:

Graduate credit is earned on the basis of additional work required by the instructor [per 2005-2006 TTU Graduate Bulletin], page 38.

VI. POSSIBLE TEXTS AND REFERENCES:

James R. Munkres, *Analysis on Manifolds*, Westview Press (June, 1997)

VII. ANY TECHNOLOGY THAT MAY BE USED: