

**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:**

Students with a disability requiring accommodations should contact the Office of Disability Services (ODS). 1  
An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The ODS is located in the Roaden University Center, Room 112; phone 372-6119.