Tennessee Tech University
Mathematics Department

MATH 1831: Further Topics in Applied Calculus

I.   COURSE DESCRIPTION FROM CATALOG:
     Includes systems of linear equations, linear programming, exponential and
     logarithmic equations, partial differentiation, separable and linear differential
     H T X D W L R Q V   7 K L V   F R X U V H   L V   G H V L J Q H G   W R   H Q K D Q F I
     and its applications to Economics. Lec. 1. Cr. 1.

II. PREREQUISITE (S): none

III. COREQUISITE (S): MATH 1830

IV. COURSE OBJECTIVE(S):
     This course seeks to give students a better understanding of Applied Calculus and
     its applications to the field of Economics.

V.   TOPICS TO BE COVERED:
     i) Systems of Linear Equations (approx. 3-4 weeks)
        (1) Substitution
        (2) Elimination
        (3) Matrix Operations
        (4) Inverse Matrices
        (5) Leontief Input-Output Model

     ii) Linear Programming (approx. 2-3 weeks)
        (1) Linear Inequalities
        (2) Simplex Method
        (3) Optimizatizatizatizatiza

        (3) Exponential Equations
        (4) Logarithmic Equations

     iv) Partial Differentiation (approx. 3 weeks)
        (1) Multivariate Functions
        (2) Partial Differentiation
        (3) Maxima and Minima

     v) Differential Equations (optional topic; approx. 2-3 weeks)
        (1) Separation of Variables
        (2) Linear Differential Equation