Eng T 295R-002
Engineering Math Refresher Course
Fundamental Concepts and Techniques of Calculus

REINHARD O.W. FRANZ
472 CB, phone 422-8173, email franz@et.byu.edu
Office Hour: By Appointment.

MWF 4:00–4:50 pm, 254 CB
http://mathrefresher.et.byu.edu

Objective
The students should be able to recall and apply the fundamental concepts and techniques of Calculus I and II essential for a successful completion of classes like Advanced Engineering Mathematics, Ordinary Differential Equations, Multivariable Calculus, etc and engineering classes, which build upon a solid working knowledge of Calculus I and II.

Remark
This is a zero credit class offered as a service to assist students who have become “rusty” in their math skills, to make a smooth transition back into their math studies. As everyone enrolled will receive a “pass”, the students are free to attend those parts most helpful for their individual review needs.

Text

Topics/Schedule
Feb 26, 29, Mar 2, 4: Basic Techniques of Algebra: manipulating terms and equations, solving algebraic equations etc;

Mar 7, 9, 11: Trigonometry: definition and basic properties of the trigonometric functions, fundamental trigonometric identities;

Mar 14, 16, 18, 21: Differential Calculus: limits, continuity, differentiability, techniques of differentiation, applications, etc;

Mar 23, 25, 28, 30, Apr 1, 4, 6, 8, 11: Integral Calculus: definite and indefinite integrals, Fundamental Theorem of Calculus, techniques of integrations, applications, etc;

Apr 8, 10, 13: Sequences and Series: convergence, improper integrals, L’Hospital’s rule, convergence criteria for series, Taylor series, etc.