

**APPLIED MATHEMATICS SEMINAR**  
Department of Mathematics  
University of West Georgia  
**4 PM, MONDAY, OCTOBER 10, 2005, BOYD 330**

Speaker: Dr. Nguyen Van Minh

Title: **A formula in the exact equation method  
and related topics**

**Abstract**

We discuss a formula to solve an exact equation of the form

$$M(x, y)dx + N(x, y)dy = 0. \tag{1}$$

Namely, the formula is  $f(x, y) = C$ , where  $C$  is arbitrary constant, and

$$f(x, y) = \int_{x_0}^x M(x, y)dx + \int_{y_0}^y N(x_0, y)dy.$$

where  $(x_0, y_0)$  is any point in the domain of  $M, N$ . We will discuss the relation between this formula and the Green-Stoke Theorem, the Fundamental Theorem of Calculus, and especially, how the geometry of the domain of the functions  $M, N$  can have some effect on deriving this formula.

This talk is intended for anyone (including undergraduate students) who is interested in teaching and learning Ordinary Differential Equations and Calculus.