

The USM Calculus Seminar Series



Announcing

A Seminar Presentation

April 11, 2007 at 3:00 pm

Southern Hall 303

at The University of Southern Mississippi

Speaker: Michael Howard

Department of Mathematics
University of Southern Mississippi

Title: Basic Properties of the Chebyshev Polynomials

Abstract:

Chebyshev polynomials are a sequence of orthogonal polynomials named after Pafnuty Chebyshev. Chebyshev polynomials are important in numerical approximation theory. When the roots of a Chebyshev polynomial are used as the nodes for a polynomial approximation of a given function, they minimize the error of the approximation. For this reason they are highly valued by mathematicians and engineers.

This presentation provides an introduction to the Chebyshev polynomials using basic trigonometry and calculus, and demonstrates their use in approximating functions. Some additional elementary properties of Chebyshev polynomials are developed including their orthogonality, their roots, and the shifting of the Chebyshev Polynomial from an even to an odd function.

Further Information

Refreshments are served from 2:50 pm until 3:00 pm in Southern Hall 303. Further details and information about this and other departmental activities is available online at http://www.math.usm.edu/bulletin_board/.