962-A1-405 **Homer W. Austin*** (hwaustin@ssu.edu), Department of Math. & Cosc., Salisbury State University, Salisbury, MD 21801. *The Central Limit Theorem: Its History and Proof.*

The Central Limit Theorem (CLT) states when the distribution of the sample mean is approximately normally distributed. The theorem has been labeled "the premier modern contribution, not only of mathematical statistics, but also of all mathematics, dwarfing in its beauty and applicability even the combined results of algebra, topology, and classical applied mathematics" [Dudewicz & Mishra, Modern Mathematical Statistics (1988), p. 294]. The CLT or Lindberg-Levy Theorem can be proved in different ways, depending upon the assumptions. If moment-generating functions exist for the independent, identically distributed random variables, then a proof using moment-generating functions is available. One can always construct the proof using characteristic functions, since these functions always exist. Using distribution functions, the convergence is uniform (Polya's Theorem). Key players such as DeMoivre, Laplace, and Bernoulli in the beginning to some of the more recent such as Lindberg (Lindeberg) and others are referenced. Several approaches to the proof of the theorem and some applications are noted. (Received September 13, 2000)