1172-41-25   **Galen Novello*** (`gnovello@unm.edu`), Univesity of New Mexico, Department of Mathematics and Statistics, 1 University of New Mexico, MSC01 1115, Albuquerque, NM 87106. *Some Basic Results on Weighted Chebyshev Polynomials.*

Chebyshev polynomials play a fundamental role in polynomial approximation. Their study dates back to Chebyshev's work on rectilinear motion in the 1850's. Over the years the existence and various characterizations of Chebyshev polynomials have been proven by Chebyshev, Erdös and Kolmogorov among others. In this talk some of these results are extended to the case of weighted Chebyshev polynomials. In particular, the existence of weighted Chebyshev polynomials is established along with a criteria for uniqueness, an alternation theorem, and a characterization of weighted Chebyshev polynomials using Kolmorogov's criteria. (Received August 05, 2021)