1125-41-3095 **Hussain Y. Al-Hammali*** (alhammah@math.oregonstate.edu), 1500 SW Jefferson St., Kidder Hall office 368, Corvallis, OR 97331. *The Reconstruction of The Band-limited Functions of Polynomial Growth with minimal Oversampling.*

In this talk, we will consider the reconstruction of functions that are band-limited in a distributional sense and have polynomial growth when restricted to the real line. A sampling series with an oversampling by a finite number of points will be derived. Oversampling by adding a few additional points can also be used to generate a faster decay of the sampling functions which causes more rapid convergence in the sampling series. Also, we will derive an approximate reconstruction by multiplying the function to be reconstructed by a smooth cut-off function and use of slight ratio-type oversampling. By ratio-type oversampling we mean a sampling set of higher density, e.g., using $\lambda\mathbb{Z}$, with $0 < \lambda < 1$ instead of $\mathbb{Z}$. Finally, a numerical example will be given to compare three sampling series for a function in $\mathcal{B}_\pi^\infty$, the space of band-limited functions that are bounded when restricted to the real line. (Received September 21, 2016)