1125-08-1634 **Jeffrey O Wand*** (wand@gonzaga.edu). *Constructing Demazure Flags and the Combinatorics Involved.*

In this talk we will look into the combinatorics motivated by studying the representation theory of Lie algebras. More specifically, we will be looking at a family of modules for the current algebra $\mathfrak{sl}_n[t] = \mathfrak{sl}_n \otimes \mathbb{C}[t]$, where $\mathfrak{sl}_n$ is the space of complex $n \times n$ matrices whose trace is zero and $\mathbb{C}[t]$ is the space of polynomials with complex coefficients. The family of interest is the Demazure modules. The level ℓ Demazure module is a cyclic module for $\mathfrak{sl}_n[t]$ that is generated by a highest weight vector with certain defining relations. Our goal is to construct an explicit level 2 Demazure filtration of the level 1 Demazure module, something that was proven to exist by Naoi in 2011. In constructing our level 2 Demazure filtration interesting combinatorics arise. (Received September 18, 2016)