1024-17-214   **Brian Boe**, **Dan Nakano** and **Emilie Wiesner*** (`wiesner@math.uga.edu`). *Cohomology of Category $\mathcal{O}$ for the Virasoro algebra.*

This talk will present results on the blocks of the category $\mathcal{O}$ for the Virasoro algebra. Starting with the results of Feigin and Fuchs for the Virasoro algebra, we compute $Ext^n_{\mathcal{O}}(M(\mu), L(\lambda))$ and $Ext^n_{\mathcal{O}}(L(\mu), L(\lambda))$, where $M(\mu)$ is a Verma module and $L(\lambda)$ is a simple module. This work provides a nice application of the theory of highest weight categories. (Received January 09, 2007)