1084-13-242 **Sean Sather-Wagstaff** and **Richard Wicklein*** (richard.wicklein@ndsu.edu). *Variations On A Result Of Lescot.* Preliminary report.

In 1990, Jack Lescot proved the following result.

Let $(R, \mathfrak{m}, k)$ be a noetherian, local ring.Let $\underline{x} = x_1, \ldots, x_d$ be a minimal generating sequence for the maximal ideal $\mathfrak{m}$. $K(\underline{x})$ is the Koszul complex on the minimal generating sequence. Let M be an R-module. Then the following are equivalent.

1. For all i, $0 \leq i \leq d$, the k-vector space $H_i(K(\underline{x}) \otimes_R M)$ is finite dimensional.
2. For all $i \in \mathbb{N}$, the k-vector space $Tor_i^R(k, M)$ is finite dimensional.
3. For all $i \in \mathbb{N}$, the k-vector space $Ext_R^i(k, M)$ is finite dimensional.

We will discuss some variations of Lescot's result when a minimal generating sequence for the maximal ideal is replaced by a generating sequence for an arbitrary ideal. (Received September 03, 2012)