In this talk, we will introduce a class of truncated path algebras in which the Betti numbers of a simple module satisfy a polynomial of arbitrarily large degree. We will give examples of such algebras where the $i^{th}$ Betti number of a simple module $S$ is $\beta_i(S) = i^k$ for $2 \leq k \leq 4$ and provide a method for constructing truncated path algebras where $\beta_i(S)$ is a polynomial of degree four or less with nonnegative integer coefficients. In particular, we prove that algebras in this class can produce Betti numbers corresponding to any polynomial in a certain family. (Received September 19, 2016)