1116-VM-2802 **Ariel Cintron-Arias*** (cintronarias@etsu.edu), ETSU, Department of Mathematics and Statistics, Box 70663, Johnson City, TN 37614. *Post-Secondary Enrollment in the United States: Model Validation and Student Life Tables.* Preliminary report.

Mathematical models of demography are revisited in the context of student enrollment at postsecondary institutions across the United States (US). More specifically, matrix population models with constant and time-dependent coefficients are implemented.

Longitudinal datasets for a regional public university were employed as a case study. Additional datasets were obtained from public archives maintained by the US Department of Education. At each year, there were four measurements of enrollment corresponding to student classification: freshman, sophomore, junior, and senior.

Ordinary least squares (OLS) methods, together with bootstrap sampling were applied while estimating model parameters. Akaike information criterium (AIC) was calculated to select one of five mathematical models best suited to describe the longitudinal observations of enrollment.

An ultimate goal of this project is the estimation of life tables in the context of enrollment, also known as "tables of school life" or "student life tables". Model parameter estimates were transformed and evaluated to approximate student life table functions such as: student life expectancy, probability of school departure, average number of years in each school group (e.g. sophomore). (Received September 22, 2015)