1023-K1-1153 **Robert E. Burks*** (robert.burks@usma.edu), 211B Barry Road, West Point, NY 10996, and **Joseph Lindquist** (joseph.lindquist@usma.edu), Department of Mathematical Sciences, United States Military Academy, West Point, NY 10996. *Leslie Matrices: A Biological Application to Matrices and Difference Equations.*

The United States Military Academy math curriculum is continually evolving to better meet the future needs of its students. All incoming freshmen now begin their two year mathematics sequence with a course in mathematical modeling and introduction to calculus. The course emphasizes using problem solving strategies and modeling theory to solve complex and often ill-defined problems. The course is designed to nurture creativity, critical thinking, and exploit technological tools to enhance an understanding of data analysis. The final block of instruction in this course focuses on biological modeling applications. The block fuses for the student mathematical concepts learned during the course with biological case problems. The intent is to continually show students the relevance of mathematics to the study of real world problems, particularly to Biology. This presentation focuses on a portion of the block of instruction where we build upon previous instruction in both matrix operations and difference equations to address age-structured population problems. We will discuss how our program incorporates the application of mathematics to construct Leslie Models that address biological case studies. (Received September 25, 2006)