1023-K1-272   **Glenn Ledder*** (`gledder@math.unl.edu`), Department of Mathematics, 203 Avery Hall, University of Nebraska-Lincoln, Lincoln, NE 68588-0130, and **Brigitte Tenhumberg**. *An "Experimental" Interdisciplinary Course in Mathematical Ecology.*

How do we interest students in combining mathematics and biology in their studies and careers? One approach is to offer a lower-level interdisciplinary course that intimately connects the mathematical and biological content. As part of an NSF-funded interdisciplinary undergraduate research project, we created a course called *Research Skills in Theoretical Ecology*. The course is offered during the summer to entering freshmen and rising sophomores. The laboratory component of the course is an integrated research project on aphid population dynamics and predator-prey interactions between lady beetles and aphids. The lecture component of the course deals with stage-structured matrix-based population models and first-order nonlinear differential equation models. In the first part of the course, students collect experimental data from virtual experiments as well as the insect laboratory, develop mathematical models, and learn mathematical and computational methods for investigating models. In the second part, they use statistical methods to determine parameter values, run simulations to test the predictive value of their models, prepare a paper or poster, and prepare a proposal for continuing the research. (Received September 01, 2006)