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Thomas W Judson* (judson@math.harvard.edu), Department of Mathematics, 1 Oxford Street, Harvard University, Cambridge, MA 02138. *Biology, Differential Equations, and Learning to Read the Research.*

Students intending to pursue a career in research or medicine should acquire the ability to employ mathematical techniques and seek collaboration with a mathematician in order to model problems of interest. For students who have had a year of single variable calculus it is possible to cover in one semester the basic models that arise in differential equations and biology including population growth, and stability in a one-component system, systems of first order differential equations, stability in non-linear systems, periodic solutions, the diffusion equation, separation of variables, pattern formation, stability criteria, and traveling waves. One of the major goals of a course in differential equations and modeling for biology is learning to read and interpret articles in biology and related subjects. In lieu of a final examination, students can submit a final project where they read and critique a current research article. We will describe these final projects and what that a mathematician might expect to encounter when teaching such a course. (Received August 18, 2006)