1067-J1-2092 **Kristin Arney*** (kristin.arney@usma.edu), 646 Swift Drive, D/Math, West Point, NY 10996, **Hilary Fletcher** (hilary.deremigio@usma.edu), 646 Swift Drive, D/Math, West Point, NY 10996, and **Gerald Kobylski** (gerald.kobylski@usma.edu), 6464 Swift Drive, D/Math, West Point, NY 10996. *Using Mathematical Modeling in Undergraduate Mathematics Courses to Promote Creativity and Critical Thinking.*

Literature in college education supports the vital need to develop creative and critical thinkers who can solve complex and unfamiliar problems while also revealing how these skills are lacking in many college graduates. In this discussion we will describe a Mathematical Modeling Process that we have used during the past few years with a goal of promoting creativity and critical thinking. Mathematical modeling is more than just creating a function to represent some real-world phenomenon and then solving for a mathematical answer; instead we promote an iterative mathematical modeling process that contains three steps: transform, solve, and interpret. We will define each step, the corresponding subcomponents, and will describe how we use this process throughout a four course mathematics sequence. We will also highlight how we have promoted this process with other disciplines at West Point. Finally, we will give specific examples of how mathematical modeling can be integrated into courses that typically focus on "standard" mathematical topics (i.e., finding the inverse of a matrix, row reduction, understanding functions, etc.). (Received September 22, 2010)