The authors present three extra credit homework assignments given to students in a Differential Calculus course at an undergraduate military academy. The assignments were given at approximately even intervals during the semester. The students were asked to model images from outside mathematics with functions, to apply derivatives to real-world contexts utilizing various differentiation rules, and to numerically estimate an inflection point within a chemistry context. The authors will discuss the learning goals of each assignment, as well as present participation rates, student work, and an assessment of the learning goals. (Received September 20, 2016)