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**Sean M Laverty\*** (slaverty@uco.edu) and **Brittany Bannish**. *Hands-on classroom demonstrations for a life sciences calculus course*. Preliminary report.

We present examples from a small catalog of successful in-class demonstrations for a sophomore-level bio-calculus course. Our goal is to generate excitement and intuition for mathematical concepts and methods. We focus on labs that take a minimal investment of student (and faculty) time, both in and out of the classroom. We have had success finding borrowed or donated supplies from experimental Departments in our College. Demonstrations often take 15-20 minutes of class time at the start of each chapter. We begin with a simple population dynamics experiment using yeast, used to emphasize and review variables, parameters, measurement, calculations, graphing. We return to this exercise to discuss discrete-time dynamical systems, using the data to build a model. We study the Newton's Law of Cooling problem, measuring and discussing average and instantaneous rates of change to motivate the limit and the derivative. Later we revisit this data to introduce elementary differential equations and their solutions. Lastly, we introduce integration by using measured velocities to predict the position of running and walking students during a 'race'. In this talk, we discuss objectives, mechanics, and pitfalls of these examples. (Received September 17, 2013)