

1116-T1-1267      **Troy Day\*** (tday@mast.queensu.ca), Jeffery Hall, Queen's University, Kingston, Ontario  
K7L3N6, Canada, and **James Stewart**. *Using Case Studies to Integrate Life Science content in  
Introductory Calculus Courses.*

Virtually all branches of the life sciences continue to become increasingly quantitative. As a result there is a growing demand for mathematics and statistics courses tailored to life science students. For example, many institutions are interested in developing introductory calculus courses specific to biology but it can be difficult to go beyond simply providing a standard course in which physical examples are swapped for biological ones. I will discuss how real-world case studies can be used to provide a richer integration of mathematics with biology. This will be illustrated with an example case study focusing on vaccination and pathogen virulence evolution. I will discuss how this case study can be used to motivate the development of several different mathematical ideas in calculus and how it thereby ties together multiple concepts that are taught throughout such a course. (Received September 18, 2015)