## Undergraduate Colloquium in Mathematics Wednesday, April 13<sup>th</sup>, 3-4 PM STV 401

## **Darth Vader Rule**

Krzysztof Ostaszewski, ISU

Life insurance actuaries learn to calculate life expectancy as the expected value of the survival function as a standard approach in mathematics of life insurance, life annuities and pensions. But the approach to calculation of expected value of a random variable expressed by that form of calculation is, in fact, valid for all random variables, and remains largely ignored in most probability textbook. It is, overall, a simplified and efficient tool for finding expected value. We will discuss the proof of this phenomenon, named "The Darth Vader Rule" by Dr. Ostaszewski, and illustrate how it simplifies most calculations.

