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**Aaron Luttmann\*** (aluttmann@clarkson.edu), **Joseph Skufca**, **Brian Leventhal** and **Clarice Dziak**. *A Vertically Integrated Model for a Mathematics "Capstone"*.

Capstone experiences for mathematics majors take many different forms, but, in accordance with the “capstone” analogy, a large proportion of them are relegated to the senior year of study. Rather than waiting until students are in their final year to begin to acculturate them into the mathematical community and into mathematical ways of thinking, we have developed an integrated approach to incorporating our students into mathematics that begins in the first year, with additional components in each of the following years. The first year component for our mathematics majors is an inquiry-based mathematical modeling course using software packages such as Excel, Maple, and Matlab. In the third year, students choose between two seminar courses, one covering topics related to teaching and the other covering topics related to research and work in industry. Beyond the required courses, our “professional experience” requires students to demonstrate proficiency in three core areas, through extra- and co-curricular activities. Our current paradigm was developed in response to a mandate from the university to include “professional issues” as a core component of every major, and we detail the development and implementation of our four-year-spanning mathematics major capstone experience. (Received August 18, 2011)