

1106-VT-2169 **Jason Samuels*** (jsamuels@bmcc.cuny.edu), **Aaron Wangberg**, **Brian Fisher** and **Eric Weber**. *An Innovative, Three-Dimensional Approach to Multivariable Calculus Instruction*. Preliminary report.

Multivariable Calculus presents a unique challenge for both instructors and students, as the objects of study can no longer be properly represented on a flat page. We have designed and implemented an innovative curriculum for Calculus III in which students use plastic surfaces, measurement tools, and group activities in order to explore and uncover many of the key ideas and formulas of multivariable calculus. In this talk we will give an overview of the course, demonstrate how students discover the gradient vector and its properties, and share some initial results from students and instructors. This research is part of the project Raising Calculus to the Surface, funded by the National Science Foundation DUE #1246094. (Received September 16, 2014)