1125-H5-1185   **Grace McClurkin*** (`mcclurkin@math.utk.edu`) and **Joshua Mike** (`mike@math.utk.edu`).
Utilizing Mathematica for Higher Level Thinking in Multivariable Calculus. Preliminary report.

We will describe our design and implementation of an inverted multivariable calculus classroom, which utilizes computer-based computation via Mathematica. In our approach, we delegate the lower cognitive thinking to outside class using notes and short practice. Conversely, higher-level thinking is developed in-class through Mathematica-based conceptual activities and other explorations. Our goal is to use Mathematica to simultaneously alleviate computational burden and reveal mathematical concepts. (Received September 15, 2016)