

1056-Z1-541      **Jason J Molierno\*** ([moliernoj@sacredheart.edu](mailto:moliernoj@sacredheart.edu)), Department of Mathematics, 5151 Park Avenue, Fairfield, CT 06825-1000. *Visualization Projects in Multivariable Calculus.*

Many of the concepts covered in Multivariable Calculus involve three dimensions. In this talk, I describe projects using Maple (which can be adapted to Mathematica) that I give students to assist them in understanding these concepts. Concepts covered in these projects include the quadric surfaces, absolute extrema over a closed region, and cylindrical and spherical coordinates - amongst other topics. These projects enable students to visualize these concepts in a way they would be unable to on a two-dimensional piece of paper or whiteboard. After constructing such graphs, students are required to analyze them. Thus there is a visual component and a written analytical component to these projects. If time permits, I will discuss ways I implement three-dimensional technology in class. (Received September 11, 2009)