1077-O1-1033 **Mariah Birgen*** (mariah.birgen@wartburg.edu), 100 Wartburg Blvd., Waverly, IA 50677. *The Chain Rule Dance.*

One of the most complicated algorithms in multivariable calculus is that of the chain rule. The chain rule is bad enough during the first semester of calculus, however, once students get to multivariable calculus and they have multiple variables, each of which can be functions of multiple other variables it becomes very difficult for the students to internalize. When I realized this, I developed what I refer to as the chain rule dance.

I give each student a card with a function, an operation, or a symbol. For example, one student may have $\frac{\partial}{\partial t}$ and another student would have v. Then I call out a variable and say that it is a function of other variables and they are functions of yet other variables. Then I asked the students to lineup in the chain rule for the derivative of my first variable as a function of one of the last variables. I like to start out fairly simple, but by the end of the dance we are taking derivatives of functions of three variables, each of which is a function of two variables and the act of physically representing the chain rule helps students internalize the algorithm.

This presentation will give the audience an example of how to perform this dancing around class and my list of cards which I hand out to the students. (Received September 15, 2011)