

1096-E1-2499      **J Alfredo Jimenez\*** (jaj4@psu.edu), 76 University Drive, Hazleton, PA 18202. *Flipping the Classroom in a Calculus I Class via Online Learning Modules*. Preliminary report.

I would like to present a series of three learning modules related with the approximation of area, and volume of solids of revolution, that I use in my calculus I class to implement the ideas of a flipped classroom. I have used these modules for a year, and the overall response by the students has been positive. Students find them convenient as they can work at their own pace, and easy to understand. I find that students can learn on their own some basic concepts and notation such as partition of an interval, left- and right-endpoints, midpoint, left-, right-, and midpoint rectangular approximations. As a byproduct, I use class time to integrate knowledge and lead to the abstract definition of a definite integral. In addition, students develop a better idea of how to set up Riemann sums. (Received September 17, 2013)