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Ronald E. Mickens* (rohrrs@math.gatech.edu), Clark Atlanta University, Box 1744 - Physics Department, Atlanta, GA. *Curve Sketching Difficulties of Students in Upper Level Courses.*

Upper level mathematics and physics courses often require students to accurately sketch qualitative representations of functions. The existence of graphing calculators and other software can help in this task; however, the use of such technologies may not result in student understanding of the fundamental nature and properties of the curves, including how they are to be applied to the original problem under study. We present results of an intervention strategy created to eliminate these difficulties for students studying and/or applying differential equations. The intervention's effectiveness is evaluated in terms of pre- and post-test scores, student performance during the course, and by comparison to previous classes taught without the intervention. We also measure the success of the intervention by having students write a 3–4 page essay on its value (or not) to their understanding of the relevant concepts/methods. (Received July 14, 2006)