

1116-K1-628 **Jason Cantarella*** (jason.cantarella@gmail.com), Boyd GSRC, Athens, GA 30602, and
Harrison Chapman. *A robotics-based calculus class.*

This talk discusses a one-semester calculus class organized around a simple problem: throw a ball bearing one meter into a coffee cup using a rotating arm. In the class, we have a computer-controlled throwing arm which spins at a defined speed and releases the bearing at a known angle— the calculus I class is organized around the problem of choosing rotation speed and release time to land the bearing in the cup. This requires students to learn a nontrivial application of calculus as they learn the material. Given time, we'll bring the robot arm and give a live demonstration of the throwing process. (Received September 09, 2015)