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Katie R Fowler* (kfowler@clarkson.edu), 8 Clarkson Avenue, Department of Mathematics, Potsdam, NY 13676. *Integrated Math and Physics with Roller Coaster Design for Middle School Students.*

We present our STEM Education Roller Coaster Engineering Camp and K-12 outreach program designed for 7th-12th graders. We use an integrated math-physics curriculum to teach students about roller coaster design. The program helps build students' basic skills while introducing them to exciting applications of computational science and engineering. We describe the hands-on learning experiences, including a trip to Six Flags for roller coaster research. Throughout our program, we also incorporate professional development for teachers, undergraduate and graduate students to ultimately increase the awareness of STEM college programs and careers. (Received September 07, 2015)