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K-12 Outreach with Integrated Math and Physics for Roller Coaster Design.

We present an overview of learning experiences focused on roller coaster design that integrate mathematics and physics for grades 7-12. This workshop will include some hands-on design aspects and ideas that can easily be implemented in the classroom or as part of an after-school enrichment program. These projects are motivated in part by a NYSED funded school year program targeted at middle and high school students that culminates at a week long, roller coaster camp each summer and the use of a programmable Maxflight 2002 Virtual Reality Roller Coaster that resides on our campus and a visit to Six Flags to collect data on real roller coasters. (Received September 18, 2009)