

Abstract Submitted
for the APR12 Meeting of
The American Physical Society

Exploring the Integration of Computational Modeling in the ASU Modeling Curriculum¹ MICHAEL SCHATZ, Georgia Institute of Technology, Atlanta GA, JOHN AIKEN, Georgia State University, Atlanta GA, JOHN BURK, The Westminster Schools, Atlanta GA, MARCOS CABALLERO, University of Colorado at Boulder, Boulder CO, SCOTT DOUGLAS, Georgia Institute of Technology, Atlanta GA, BRIAN THOMS, Georgia State University, Atlanta GA — We describe the implementation of computational modeling in a ninth grade classroom in the context of the Arizona Modeling Instruction physics curriculum. Using a high-level programming environment (VPython), students develop computational models to predict the motion of objects under a variety of physical situations (e.g., constant net force), to simulate real world phenomenon (e.g., car crash), and to visualize abstract quantities (e.g., acceleration). We discuss how VPython allows students to utilize all four structures that describe a model as given by the ASU Modeling Instruction curriculum. Implications for future work will also be discussed.

¹Supported by NSF-DUE0942076

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Date submitted: 06 Jan 2012

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