

1116-K1-327 **Michael Olinick*** (molinick@middlebury.edu), Department of Mathematics, Middlebury College, Middlebury, VT 05753. *Arms Races, Fair Voting, and the Bible: Examples from a Case Studies Oriented Modeling Course.*

Nontraditional applications in such fields as the social sciences and humanities provide an appealing way for undergraduates lacking a background in the physical sciences or engineering to investigate and develop models as they learn new mathematical tools. We describe a case studies oriented course at the sophomore-junior level that introduces students to deterministic, probabilistic, axiomatic and simulation models. Illustrative examples will show how the dynamics of arms races can be modeled with systems of differential equations, how classic Biblical tales can be investigated with decision and game theory, and how Arrow's Theorem explains the frustration in trying to build just voting mechanisms. (Received August 25, 2015)