1135-E5-534 **Filippo Posta*** (filippo.posta@gcu.edu), 3300 W Camelback Rd Rm 16-323, Phoenix, AZ 85255. *Balancing Chemical Reactions: a Modeling-based Exploration of Solutions of Linear Systems.*

Mathematics has a pivotal role during the first two years of college: to provide critical thinking and quantitative reasoning skills. Mathematical modeling provides the perfect environment for this purpose by encouraging the learner to connect abstract mathematical procedures to meaningful workplace problems. In this paper, we use the problem of balancing chemical equations to explore how to build a linear system and interpret its solutions. This modeling exercise provides a deeper understanding of the difference between coefficients and parameters as well as the meaning and handling of infinite solutions. We also present how the project is incorporated in a College Algebra course and its learning outcomes. (Received September 07, 2017)