

1116-VS-1543 **Mary K. Flagg*** (flaggm@stthom.edu), Department of Mathematics, 3800 Montrose, Houston, TX 77006. *Applied Abstract Algebra*.

An Introduction to Abstract Algebra course seems an unlikely place to include undergraduate research. After all, the standard material on groups, rings and fields with an emphasis on learning to write proofs is nothing new. However, it is the perfect place to share the connections between abstract theory and applications that captivated me as a graduate student and still excite my passions. My class, although small, is made up of students with a very diverse range of interests and career goals. I recently decided to celebrate that diversity and let the students choose the application topic they were most interested in as a semester project in the course. Half of the fall 2015 students chose to try an undergraduate research project instead of a standard fundamentals of public key cryptography or introduction to coding theory option. I will report on the projects “Evaluating Online Resources for Polynomial Functions from a Polynomial Ring Perspective” and “Power Domination, Zero Forcing and Graphs of Rings and Groups”. The class includes pre-service secondary education majors, and one question I will report on is how the experience changed their perception of mathematics and mathematics teaching. (Received September 20, 2015)