

1106-G1-2893 **Michelle L Ghrist*** (michelle.ghrist@usafa.edu). *Magic Squares and Other Explorations in Linear Algebra.*

When I taught a proof-based Linear Algebra course for the first time last year, I encouraged my students to deeply ponder the ideas and ask hard questions, fully admitting that I did not have all of the answers. Several interesting side ventures arose from student questions; in this talk, I discuss some of these quests, how I incorporated them into the classroom, and how the use of technology facilitated the discovery process. Topics include how a survey of commuting matrices arose from a discussion of elementary matrices and how an exploration of magic squares arose from a discussion of vector spaces. (Received September 17, 2014)