

**Meeting:** 1003, Atlanta, Georgia, MAA CP X1, MAA General Contributed Paper Session, I

1003-X1-441      **Jason E Kelly\*** ([jason.kelly@usma.edu](mailto:jason.kelly@usma.edu)), Department of Mathematical Sciences, United States Military Academy, West Point, NY 10996, **Derek F Burt** ([derk.burt@usma.edu](mailto:derk.burt@usma.edu)), Department of Mathematical Sciences, United States Military Academy, West Point, NY 10996, and **Edgar K Rugenstein** ([edgar.rugenstein@usma.edu](mailto:edgar.rugenstein@usma.edu)), Department of Mathematical Sciences, United States Military Academy, West Point, NY 10996. *Throwing away the Calculator.*

In the summer of 2004, the United States Military Academy (USMA), after over a decade of insistence, eliminated the requirement for all first year students to purchase graphing calculators. This decision was partly due to the Department of Mathematical Sciences fully embracing the laptop computer as the primary source of technology in the classroom. This paradigm shift required the Mathematics Department to fundamentally change how it taught its core math program. Using the laptop and computer algebra systems, mathematics at USMA has become a much more visual and experiment oriented curriculum. The laptop computer, and its ability to provide rapid visualization, creates an environment where students can explore previously abstract concepts. This paper will showcase both the similarities and differences between the graphing calculator and the laptop, and will highlight the substantial benefits of leveraging the laptop in the classroom. The core mathematics program has a much more applied flavor due in large part to the use of technology in the classroom. Students discuss, model mathematically, and interpret throughout the entire course. The result is a much richer experience for both the student and instructor in the mathematics classroom. (Received September 14, 2004)