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**Gerald C Kobylski\*** (ag8485@usma.edu), **Donovon Phillips** (ad1043@usma.edu) and **Patrick J Driscoll** (ap5543@usma.edu). *A Computer Algebra System and a Terrain Walk in an Undergraduate Nonlinear Programming Course.*

As mentioned in the description for this session, the use of computer algebra systems in the undergraduate curriculum, particularly the lower division courses, has become widespread over the past few years. To compliment the curriculum in our Operations Research major, we offer a course in nonlinear programming which a student typically does not encounter until graduate schooling. The way we teach many of the algorithms studied in this course can best be summarized by the following methodology: visualize the mathematics using MAPLE, analyze the mathematics behind the algorithm, engage in some physical activity whose structure is analogous to the mathematics, and finally, revisit and assess the graphical and mathematical interpretation of what was just encountered. In our course, we give the students many handouts that relate their knowledge from previous calculus courses to the current material at hand. These handouts, many of which are from MAPLE demonstrations we do together in the classroom, greatly enhance and supplement their understanding of the text we use. What adds even more to their understanding is the physical activities we associate with various topics. With particular note is the terrain walk we associate with gradient search methods. (Received September 14, 2000)