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Steven J. Cox and **Elaine T. Hale*** (ehale@rice.edu), Rice University, CAAM Dept. - MS 134, 6100 Main St., Houston, TX 77005-1892, and **Brad Peercy**. *Marrying Form and Function: Mathematics as Motivation in an Introductory Programming Course for Engineers and Applied Mathematicians.*

Teaching an "Introduction to Computer Programming" course for undergraduate students can be a daunting task, especially if the course is offered in a Mathematics or Applied Mathematics Department. Invariably, the students will range widely in their previous programming exposure. However, if the students share enough mathematics background (in this case a year of calculus and minimal exposure to matrices), there are a wide range of mathematics that can be explored using numerical computation by programming novices and experts alike. By introducing topics like Newton's method, the simulation of chemical reactions using Gillespie's algorithm, and the traveling salesman problem, and inviting students to create beautiful graphics, most students can be motivated to learn not only basic programming skills, but how to compose computer programs that solve problems. This is the experience of the instructors of the Introduction to Engineering Computation course offered by the Computational and Applied Mathematics Department at Rice University. (Received September 28, 2005)