Integrating computation and simulation into the undergraduate physics curriculum

GUS L. W. HART, Northern Arizona University — At Northern Arizona University, we have been integrating computation and simulation into the curriculum at all levels. We hope to achieve a number of objectives: (i) increase student retention during the first three semesters of the program, (ii) train students in this “third branch” of science, (iii) provide students with scientific computing skills, (iv) expand the coverage of the upper-division course content. I will discuss two courses required during the freshman and sophomore years and how computation and simulation is integrated into the upper-division courses. The perceived successes and remaining shortcomings of the current curriculum will addressed.

Gus Hart
Northern Arizona University

Date submitted: 30 Nov 2005

Electronic form version 1.4