962-J1-207   **Danny W. Turner*** (`turnerd@winthrop.edu`), Winthrop University, Mathematics Department, Rock Hill, SC 29733. *Introducing Upper-Division Mathematics Students to Mathematica.*

This paper will chronicle the use of the computer algebra system Mathematica in a class of mathematics majors. All students were junior level or above and had quite good backgrounds. This course was unique(for us anyway) since the focus was on the broad potential of using Mathematica in a wide variety of areas that the students had seen across many courses already taken(most without the use of any CAS). One major goal of this upper-division course was to introduce enough Mathematica to allow the students to use this CAS tool in any course work they might encounter. Two aspects of the course were of particular note. First, students were required to give live presentations of problem solutions/class projects using Mathematica not only for the mathematics involved, but also as the sole means of presentation via interactive notebooks. Secondly, I constructed a collection of about sixty Mathematica exercises ranging from routine to thought provoking that led us through topics in areas such as factoring polynomials, solving equations, creating graph paper, solving systems of equations(linear & nonlinear), animated graphics for a one-dimensional random walk with drift, parametric curves and surfaces, and more! (Received August 28, 2000)