We describe the work we have done on an ILI-IP project: *A Computational Laboratory/Classroom Learning Environment for Mathematics Majors* (grant # DUE-9452213) aimed at improving 4 senior level courses: Differential Equations II, Partial Differential Equations, and Advanced Engineering Mathematics I & II. The project’s goal was to improve these courses by integrating the use of the computer into all aspects of these courses (homework exercises, tests, tutorials, and demonstrations). We used MAPLE as the computer algebra system for doing all computer work and MAPLE’s worksheet format proved to be very helpful to the students for doing the exercises/tests and to us for producing tutorials and demonstrations for them. The ILI grant enabled us to establish two labs: one fixed (a traditional computer lab) and one portable (consisting of 12 TI TravelMate 4000E laptop computers). The portable lab turned out to be enormously successful in achieving the project’s goals. We describe why this was so, as well as the details of our course improvements.