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This presentation will explain how we used a computer algebra system together with a modeling first approach to transform our sections of differential equations. There were two factors that played important roles in this decision.

First, the 2015 report of the Differential Equations Working Group of the CUPM of the MAA stated: "The ODE course is easily the course in the introductory undergraduate mathematics curriculum in which the use of technology is most essential." It also stated that with technology, modeling problems that were previously inaccessible become accessible. Second, we attended a SIMIODE workshop where we learned about a community dedicated to modeling first in differential equations.

We decided to devote one-third of our class time to a modeling first approach. We held this class in a computer lab and used Maple. We discovered that the modeling first approach works very well when students use a CAS to solve previously inaccessible problems and get answers that make sense. We will provide several examples of modeling problems that worked well and report on some of the expected, and rather unexpected, benefits of this approach. (Received August 30, 2016)