There is now substantial research evidence of the positive impact of engaged student learning in mathematics courses, to the point that many voices, including the CBMS, reasonably claim that it is a professional responsibility to promote engaged (“active”) learning wherever possible. Left is the question of how to do this, especially in the context of large-enrollment courses taught in a traditional lecture format. In this talk we discuss the goals for and assessment of a course revision in our large-enrollment differential equations course, with specific emphasis on a set of computer laboratory assignments being used in the lab session associated with the course. We consider the goals and evaluation of these materials and their impact, and discuss the interaction between student engagement, computer use, and cooperative learning in their construction and effectiveness. (Received September 19, 2016)