

1023-Z1-1199 **Pangyen Ben Weng*** (pweng@ramapo.edu), 505 Ramapo Valley Rd., Mahwah, NJ. *Redesigning the first course of differential equations*. Preliminary report.

The author presents an experimental course redesign of differential equations at undergraduate level. Unlike traditional differential equation courses focus mainly on analytic techniques, this redesigned course also emphasizes mathematical modeling, qualitative techniques, and numerical analysis. Thanks to a small class size, students are also required to develop a term project with classroom presentation, poster and a research paper.

The author will talk about (1) the goals, the content material and the practice of this course, (2) assessment of student learning, and (3) learning activities outside the classroom. The author will assess the outcome of the redesigned course based on various sources including student performances, student surveys and outside reviews. The author then concludes the discussion with designs of the second course in differential equations, as well as topics courses in partial differential equations, applied mathematics and dynamical systems. (Received September 26, 2006)