Teaching Mechanics Courses: Small Class Size vs. Large Lecture-Hall Format

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In an era of budget down-sizing at most state-run universities, enrollment fluctuation in an unstable business climate, varying engineering student population size, or as a matter of engineering education philosophy, a nagging question presents itself time and time again; what is the proper class size to teach fundamental engineering mechanics courses most effectively, without compromising coverage of required topics and achieving maximum students' learning and retention of the topics?

Having been involved in teaching mechanics courses for over a decade in a variety of environments including private, state, large, and small engineering schools and universities, the authors present educational arguments to address the proposed question. A variety of tools and resources including support by teaching assistants, the use of audio-visual techniques, interactive iterative learning (IIL), recitations sessions, students' presentations and evaluations of students' learning surveys will be examined to highlight the outcomes of such educational tools.

While it is not the intention of the authors to present a final say as to which model will be most effect, the hope is to generate a spirited discussion beyond the confines of a limited number of engineering schools, and to collectively generate comprehensive input and outcomes to enhance the learning experience of engineering mechanics topics as a live discipline rather than an analytical construct.