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An interactive-engagement course promotes transfer to upper-division coursework EMILY WEST, University of New Haven, DAVID WEBB, WENDELL POTTER, University of California Davis — We report two years of data on the initial implementation of a modified large-enrollment introductory physics course for scientists and engineers. The modified course shifted the time balance and student activities, decreasing passive lecture time and increasing interactive discussion/lab time. We compare conceptual learning in the traditional and modified courses using the FCI and CSEM. The first modified mechanics course yielded results similar to the traditional course; future iterations of the modifications in both mechanics and electricity and magnetism result in increased gains in the modified courses. Further, we examine grades in subsequent courses, specifically the upper-division electromagnetism course and the upper division circuits course. Controlling for GPA, students who participated in the modified introductory course outperformed the students who participated in the traditional course in the upper-division electromagnetism course, and grades were equivalent in the circuits course.

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