Flipping the Foundation: Circuits I

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Circuits I is one of the first classes students take in the Electrical Engineering major at the University of Florida. In the past, where the traditional lecture model was used, about 25% students would drop out and only 60% of the retained students received the marks required to take further courses in the curriculum. In Spring 2013, the faculty flipped the classroom to foster student engagement, improve performance, and increase retention. The results were a significant improvement - only 3 out of the 168 enrollees dropped, and 85% of retained students received a grade of C or better. According to mid-term surveys, students preferred this approach to spending class time. This contrasts with research that suggest the flipped classroom may not be the best structure for an introductory course. The flipped approach can be highly effective as a starting point of and continuing engineering education.