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Modeling and simulation in the calculus classroom.

Calculus teachers are under increasing pressure to teach modeling and simulation skills in introductory calculus courses. These skills can enrich the study of calculus, by connecting it to real world applications that go far beyond 'word problems'. They are also highly useful for students taking calculus into follow on courses in the life sciences. But teaching these skills in a way that doesn't overburden students or teachers is huge challenge. Here we will describe some methods for introducing modeling and simulation into calculus courses, while maintaining a focus on teaching the rudiments of calculus, and allowing the teacher to introduce as little or as much computer programming or specialized software as they want to. (Received September 26, 2017)