Modeling First Calculus Curriculum: Reimagining the content of university mathematics courses to align with students' interests and aspirations

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Abstract

Introductory mathematics courses have the potential to equip students with the knowledge, skills, and dispositions necessary to solve important problems our world faces. Despite this incredible potential to create transformative educational experiences, students often encounter introductory mathematics courses as a burdensome requirement.

In this presentation, I will share my experience of reimagining my introductory calculus course as a mathematical modeling course. I will discuss leading design principals, share concrete tasks, and provide some data on student outcomes. I am eager to collect feedback, find inspiration, and meet new collaborators.

Short biography

Brendan Kelly is the Director of Introductory Mathematics at Harvard University, where he leads the design and implementation of curriculum and instructional strategies for first-year mathematics courses. In his capacity as Director of Introductory Math, Dr. Kelly collaborates with faculty to provide an ecosystem of student supports and modernize the math curriculum, emphasizing the application of mathematics in real-world contexts via mathematical modeling.



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