

Online Seminar on Undergraduate Mathematics Education

Calculus at Multiple Scales: Successes and Challenges

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Many instructors have faced the challenge of adapting classroom practices from one setting to another. Like houseplants, some approaches that thrive in one setting seem to mysteriously wither in others. In this talk, I will focus on the effect of scale in (mostly) my own experience teaching single variable integral calculus. In the pre-pandemic era, this includes a five-year run teaching an uncoordinated active calculus section of 50-60 students which eventually produced reasonable successes building student buy-in and promoting social belonging (the "local" scale). During the pandemic, the course evolved into an online, coordinated version with sections of 120 (the "institutional" scale) and has continued to grow in this direction now that in-person instruction has resumed. Among the unsolved challenges in this new format are several practical and technological issues in particular that I would like to highlight for comparison and discussion across institutions and contexts (the "global" scale).

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Zoom link: <https://cornell.zoom.us/j/92415199317>, passcode olsume

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