ABSTRACT
We provide evidence that enrolling in an introductory chemistry laboratory concurrently with the corresponding lecture course enhances learning gains and retention in comparison to students who enroll in the lecture alone. Specifically, concurrent enrollment positively impacts:
- the odds of retention in the lecture by 2.2 times on average, and
- final lecture grades by up to 0.19 grade points for the lowest-scoring students on the university’s math and chemistry placement exams.

RATIONALITY
Lectures are uniquely suited for helping students achieve some specific learning goals (NRC, 2006), namely:
- understanding the complexity and ambiguity of empirical work, and
- developing practical skills.

However, little has been published on the relative timing of the lecture and lab (Matz, 2012), i.e., is it important to concurrently enroll?

Additionally, a survey of 40 public universities with high undergraduate enrollment revealed that substantial percentage offer introductory biology (38%), chemistry (43%), and/or physics (33%) lectures and laboratories as separate courses without requiring concurrent enrollment.