

Is undergraduate research the CURE for student engagement?

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# What is a CURE?

### Course-based undergraduate research experience

	CUREs	Research internships
Scale	A whole class	A few students
Mentor-to-mentee ratio	1:many	1:1
Enrollment	Open to all students in a course	Open to a selected few
Time commitment	Time investment is during class.	Time investment is outside of class.
Setting	Teaching lab	Faculty research lab

Modified from Auchincloss et al. (2014)

# What activities do students engage in during a CURE?

(Auchincloss et al., 2014)

#### Engage in scientific practices

 asking authentic questions, designing studies, selecting methods, using tools, navigating real data

#### Discovery

 Outcomes of investigations are unknown to both instructor and students

#### Relevant to the discipline

Potential for impact/publication

#### Collaboration

Teams of scientists working together

#### Iteration

• "Students ... repeat or revise aspects of their work to address problems or inconsistencies, rule out alternative explanations, or gather additional data to support assertions" (p. 31)

## Benefits of CURES

(Auchincloss et al., 2014)

• Depends on how many CUREs a student has opportunity to participate in

#### Outcomes: Short to Long-term Content knowledge Research skills Technical Science skills literacy Ability to Skepticism navigate Understanding uncertainty Analytical Science of the nature skills expertise of science Science Motivation identity Professional Project Self ownership mentoring authorship Persistenc Self e in efficacy science Interaction Scientific Science with peers aspiration enculturation Resilience Communication skills and Grit Interaction Professional with network faculty Collaboration Participation in CURES skills **Time**

Please describe your course, generally, such as who takes it, what the topic is, and how you have integrated undergraduate research into the course?

What was your reason for choosing to do course-based research for this course?

Why was this important to you?

What student outcomes have you measured, or what benefits have you observed as a result of integrating research into this course?

What advice would you give to someone who is considering integrating research or some other form of scholarly inquiry into one of their undergraduate courses?

# Thank you!

Auchincloss LC, Laursen SL, Branchaw JL, Eagan K, Graham M, Hanauer DI, Lawrie G, McLinn CM, Pelaez N, Rowland S, Towns M, Trautmann NM, Varma-Nelson P, Weston TJ, Dolan EL. Assessment of course-based undergraduate research experiences: a meeting report. CBE Life Sci Educ. 2014 Spring;13(1):29-40. doi: 10.1187/cbe.14-01-0004.