

Who Can REUs Help? Perspectives from REU Students and Two-Year College Faculty

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Introduction

National Science Foundation REUs pay out-of-state students to research at another university over the summer. They aim to reach students who:

- Are minoritized in STEM
- Have limited available research opportunities
- Come from **two-year colleges**.

Our questions: do REUs reach TYC students, and are they suited for TYC students? More generally, who do REUs help?

Methods

Survey #1: Who are REUs reaching now?

- 280 physics REU students
- How did your life circumstances affect your decision to attend your REU? (This characterizes specific socioeconomic barriers.)

Survey #2: Do TYC professors think REUs are for their students?

- Ongoing survey of TYC professors (22 so far).
- What qualifies TYC students for REUs?
- What should REUs prioritize for TYC students?
- What barriers will TYC students face?

What barriers do students face attending REUs?

REU students say...

- 11% said **fiscal responsibilities** made them less likely to attend. (57.8% more likely)
- 12% said **existing jobs** made them less likely to attend. (11.5% more likely)
- 11% said **family responsibilities** made them less likely to attend. (4.7% more likely)

TYC professors say...

- 13 of 22 say some or most of their students won't find the stipend sufficient.
- Almost all say some or most of their students cannot quit their jobs to attend an REU.
- One professor asked about collaborations that enable REU students to research at their TYCs.



Answer based on whether a quality is *necessary*() for a student to attend an REU or just *important*() for them to engage with an REU. The student...

has a strong interest in a physics career or degree program.

will have completed intro calculus-based mechanics before starting the REU.

will have completed intro calculus-based E&M before starting the REU.

will have completed Modern Physics or an equivalent class before starting the REU.

will have completed Calculus III before starting the REU.

has taken a coding class or has demonstrable coding skills.

has had a science internship.

is acing my class.

TYC professors answered...

- “basic, general research skills” more often than “research skills specific to one field of physics”
- “producing deliverables that aren’t necessarily published papers” more often than “publishing papers”
- “contributing substantially to their lab” even when prioritizing “basic, general research skills”.

What and who should REUs prioritize?

Do you agree or disagree with these perspectives?

Should some REUs focus on TYC students?

“I saw so many REUs listed as only for upper undergraduate students, so very few researchers/institutions seem interested in TYC students.”

According to the NSF...

REUs are funded in the science directorate, not the education directorate.

“The key to the REU program is the research experience. Getting students directly involved in research is the most important aspect.”

What else qualifies students?

TYC professors say these things even when they expect REU projects to be beyond their students’ content knowledge!

Interested and motivated to learn more.

Curiosity, perseverance, commitment, willingness to extend themselves.

My judgement is more teamwork and people skills-based than physics-knowledge-skills based. A smart, humble, creative self-starter would be better in a lab...

Takeaways and Acknowledgements

- TYC professors think some of their students are qualified to attend REUs.
- For those students, TYC professors believe REUs should focus on general research competency and basic research training.
- Students may face socioeconomic barriers to attending REUs.

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This poster, talk, and last year’s PERC paper

