Motivation

Only 26% of the computing workforce is women, less than 10% of whom are women of color. This is in contrast to the gender distribution in the life sciences, which is much closer to 50%. Thus, we created a one-week camp for high school girls focused on teaching computer science using familiar biological concepts.

Does an interdisciplinary approach encourage more women to pursue computer science (CS) degrees?

Curriculum design

Our curriculum was designed to spend equal amounts of time in the computer lab and the wet lab.

Each student independently completes their own original code and experimental work, but works towards the same question as their teammates.

Group work encourages collaboration which makes computational challenges more approachable.

A scientific poster presentation to the public and to the department allows students to practice their communication skills while reflecting on their accomplishments. It is always one of the students favorite parts of camp!

Continued interests in CS

Many of our students continued to seek out opportunities after camp to improve their computational skills.

Outcomes

Every student in our camp completed our curriculum, regardless of previous coding experience. Surveys taken before and after the camp showed increased confidence and interest in CS in each cohort.

4:1 low student-to-teacher ratio maintains hands-on aspect of camp

Students from the first year requested more time to get to know other students, so we added more structured games and activities. As a result, students felt more comfortable collaborating and had more fun!

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