

Advancing Excellence and Equity in Science (AEES) at WWU

Western Washington University (WWU) presents a comprehensive enterprise to achieve the long-term goals of the HHMI Inclusive Excellence Initiative. This project will enhance recruitment, retention, and success in the Natural Sciences for first-generation, underrepresented racial and ethnic minority, female, and transfer students at WWU.

Four goals guide this project:

- 1) increase the representation of students from these groups who graduate with Natural Science degrees and/or enter careers related to the Natural Sciences,
- 2) improve the success of historically underrepresented students in our Natural Science programs by changing classroom and advising practices and in doing so,
- 3) create a sustainable model for long-lasting change at WWU that
- 4) could be adapted for implementation at other institutions.

We will enact systemic change to affect the individual, the classroom, and the institution, in part by leveraging existing resources so that new activities will become the norm, and therefore sustainable, at WWU. Specifically, our plan consists of four major efforts to reach our goals.

- First, we will identify and transform policies and practices that disadvantage underrepresented groups.
- Second, we will establish cohorts of students interested in the Natural Sciences who will undertake coursework designed to provide a strong foundation in STEM coursework and successful navigation through college. We will recruit first-year and transfer students from historically underrepresented backgrounds to enter a new program of linked courses called Natural Science Interest Groups (NSIGs). NSIG courses will include two new seminar classes that address navigating college, understanding and using scientific practices, and building quantitative reasoning skills specific to the natural sciences. NSIG cohorts will also enroll in a new Math class geared to the Natural Sciences and be invited to enroll in a revised English 101 section that includes STEM-related reading and writing skills.
- Third, we will provide professional development to faculty and teaching assistants on equitable, inclusive, student-centered teaching and learning. This initiative will draw on existing frameworks that are already initiating changes in faculty's teaching philosophies and practices.
- Fourth, we will create a mentoring program to support students throughout their time at Western by strengthening support networks and opening the door to early research opportunities.

Together, these initiatives will encourage students with diverse backgrounds, experiences, and perspectives to build and strengthen their STEM identities. We anticipate that the number of faculty members engaged in actions to build and support a diverse student body will at least double with HHMI funding. Ultimately, our project will result in enhanced faculty awareness, understanding, and ownership of issues of equity and inclusion that will be assessed through baseline and annual follow-up surveys of students and faculty.

We expect that by providing supportive learning environments, along with targeted mentoring, WWU will increase retention and promote the success of women, first-generation students, and underrepresented racial and ethnic minorities in the Natural Sciences. This will be assessed through student surveys and analysis of retention and graduation rates of participating students. These efforts will lead us to achieve institutional change that will be both sustainable at WWU and serve as a model for other institutions.