

E2020 SCHOLARS: ADVANCING THE NAE VISION

Project Summary

The E2020 Scholars Program in the College of Engineering at Iowa State University will provide scholarships for cohorts of undergraduate students within our established learning community infrastructure, giving specific attention to the aspirations and attributes of the National Academy of Engineering's (NAE) vision for the engineer of 2020. We have outlined a set of student development and learning opportunities consistent with this vision to be integrated into our curricular and co-curricular activities: leadership development, global awareness and understanding, systems-thinking, and innovation. We propose to implement a scholarship program for engineering students that promotes student engagement and development centered on these E2020 outcomes.

Intellectual Merit

The E2020 Scholars Program will pursue the goals of the S-STEM program through four objectives:

- To provide opportunities of the Engineering Leadership Program to greater numbers of students and to create learning outcomes consistent with the E2020 vision.
- To engage students in new learning opportunities through cohorts and communities focusing on E2020 concepts.
- To involve greater numbers of students in the Engineering Leadership Program and use E2020 scholarships in coordination with new programs being developed in a related NSF STEP grant.
- To use the E2020 focus in coordination with the NSF STEP grant to prepare more graduates to fulfill the NAE and college vision.

The objectives of the E2020 Scholars Program will be achieved by leveraging two highly successful programs in the College of Engineering: the Engineering Scholarship Program and the Engineering Leadership Program. In addition, the opportunities for students will be enhanced by offering new learning experiences based on the E2020 vision. The program will benefit from the application of successful, research-based practices, alignment with national recommendations, institutional and team strengths, and expert evaluation.

Broader Impacts

The E2020 Scholars Program will fit within a stellar framework of programs, services, and initiatives in the College of Engineering. Because of this framework, there is significant return-on-investment of NSF scholarship funding. NSF scholarship funds will enable more students to participate, and will facilitate enhancements that affect all participants. The impact of the E2020 Scholars Program will match that of the Engineering Leadership Program, which is gaining recognition through dissemination at national meetings and with industry partners, as a model program for engineering student leadership development.