NSF IUSE: EHR Exploration and Design Tier for Engaged Student Learning & Institution and Community Transformation

Description:

The National Science Foundation (NSF) plays a leadership role in development and implementation of efforts to enhance and improve STEM education in the United States. Through the NSF Improving Undergraduate STEM Education (IUSE) initiative, the agency continues to make a substantial commitment to the highest caliber undergraduate STEM education through a Foundation-wide framework of investments. The IUSE: EHR program is a core NSF undergraduate STEM education program that seeks to improve the effectiveness of undergraduate STEM education for both majors and non-majors. The program is open to application from all institutions of higher education and associated organizations. NSF places high value on educating students to be leaders and innovators in emerging and rapidly changing STEM fields as well as educating a scientifically literate populace. In pursuit of this goal, IUSE: EHR supports projects that have the potential to improve student learning in STEM through development of new curricular materials and methods of instruction, and development of new assessment tools to measure student learning. In addition to innovative work at the frontier of STEM education, this program also encourages replications of research studies at different types of institutions and with different student bodies to produce deeper knowledge about the effectiveness and transferability of findings.

IUSE: EHR also seeks to support projects that have high potential for broader societal impacts, including improved diversity of students and instructors participating in STEM education, professional development for instructors to ensure adoption of new and effective pedagogical techniques that meet the changing needs of students, and projects that promote institutional partnerships for collaborative research and development. IUSE: EHR especially welcomes proposals that will pair well with the efforts of NSF INCLUDES (https://www.nsf.gov/news/special_reports/nsfincludes/index.jsp) to develop STEM talent from all sectors and groups in our society. Collaborations are encouraged between IUSE proposals and existing INCLUDES projects, provided the collaboration strengthens both projects.

For all the above objectives, the National Science Foundation invests primarily in evidence-based and evidence-generating approaches to understand and improve STEM learning and learning environments, improve the diversity of STEM students and majors, and prepare STEM majors for the workforce. In addition to contributing to STEM education in the host institution(s), proposals should have the promise of adding more broadly to our understanding of effective teaching and learning practices.

The IUSE: EHR program recognizes and respects the variety of discipline-specific challenges and opportunities facing STEM faculty as they strive to incorporate results from educational research into classroom practice and work with education research colleagues and social science scholars to advance our understanding of effective teaching and learning.

Toward these ends the program features two tracks: (1) Engaged Student Learning and (2) Institutional and Community Transformation. Two tiers of projects exist within each track: (i) Exploration and Design and (ii) Development and Implementation. Proposals are currently only being accepted to the Exploration and Design Tier.

Sponsor: National Science Foundation (NSF)
Solicitation number: NSF 17-590
Solicitation link: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505082
Funding amount: Sponsor deadline: Thursday, August 1, 2019
Solicitation Limitations: An individual may serve as PI or co-PI on no more than three IUSE: EHR proposals

Other information:

Exploration and Design projects may seek to establish the basis for later Development and Implementation projects. They may also pose new interventions or strategies, and explore challenges to their adoption, with the goal of informing policy, practice, and future design or development of components in the STEM higher education enterprise. Exploration and Design projects should describe the proposers' current teaching approaches within the context of what is known about effective educational practices and how the implementation and evaluation of those practices has informed the proposed project. In the Engaged Student Learning track, proposals should clearly describe the steps they will take to design, develop, and implement promising teaching approaches, tools, resources, or models. In the Institutional and Community Transformation track, Exploration and Design projects should include a description of the participant team, the target audience, the institution(s) or community to be transformed and the actions to be taken to move toward broader implementation. Results of Exploration and Design projects are expected to be significant enough to contribute to the body of knowledge about STEM teaching and learning and/or effective means to broader implementation. These projects may request up to $300,000 over a period of up to 3 years.

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