

From: [Kristine Callan](#)
To: [Faculty Senate](#)
Cc: [Patrick Kohl](#)
Subject: Expression of Interest for Mines@150 Student Signature Experience
Date: Monday, November 2, 2020 4:50:13 PM
Attachments: [Physics Mines@150 Faculty Senate Interest.pdf](#)

Dear Faculty Senate,

Please find our proposal (Pat Kohl and Kristine Callan from Physics) attached.

Thank you,
Kristine

Proposers: Kristine Callan and Pat Kohl

Department: Physics

Project Title: Explorations in academic wellness and equity in physics

Nearly all Mines undergraduate students take the introductory physics sequence (PHGN 100 and 200), and every year these courses employ 50-75 undergraduate teaching assistants, making it a wonderful opportunity to provide a signature experience for both student populations. We propose to revamp these courses to include significant emphases on academic wellness and equity in physics. Academic wellness and equity are fundamentally intertwined - for example, students' self-efficacy has been shown to decrease in introductory physics courses for both women and men, but more for women. And psychological barriers such as impostor phenomenon, while affecting everyone, are most prevalent among underrepresented populations. Physics has been shown to be particularly prone to these issues compared to other STEM disciplines like chemistry and mathematics, which implies cultural issues need to be explicitly addressed. We will integrate discussions of these and other topics throughout the course curricula, along with research-based interventions designed to overcome their effects. Students will leave these redesigned courses armed with tools that will help them recognize inequity and overcome challenging situations in any context.