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Fundamentals of Scientific Inquiry: Enhancing the first-year experience[1] KATHERINE RAINEY, KERRIE DOCHEN, University of Colorado Boulder, CU-PRIME TEAM — CU-Prime is an organization developed by graduate and undergraduate students, with the goal of increasing inclusion in the Physics Department at the University of Colorado Boulder, especially for traditionally underrepresented groups in physics. Alongside a talk series and a mentorship program, CU-Prime offers an introductory-level physics course which promotes a sense of community and introduces undergraduate students to cutting-edge research. Informed by experiential-based pedagogy research, the course, Fundamentals of Scientific Inquiry, aims to support students from both under- and over-represented groups by focusing on developing communication, collaboration, and metacognition skills while providing student-driven research experiences in a low-stakes environment. Throughout the semester, students complete personal weekly reflections and attend regular research talks by graduate students. The course involves class discussions about the psychology of learning, as well guided small-group experiments, then it centers around student-driven research projects supported by graduate student mentors. Along the larger goals of CU-Prime, implementing this course involved a collaborative effort between the instructors, the rest of CU-Prime, and the physics department as a whole.

[1]Fundamentals of Scientific Inquiry: Enhancing the first-year experience

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