

Abstract Submitted
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Learning by doing at the Colorado School of Mines THOMAS E. FURTAK, TODD G. RUSKELL, Colorado School of Mines — With over 260 majors, the undergraduate physics program at CSM is among the largest in the country. An underlying theme in this success is experiential learning, starting with a studio teaching method in the introductory calculus-based physics courses. After their second year students complete a 6-week full-time summer course devoted to hands-on practical knowledge and skills, including machine shop techniques, high-vacuum technology, applied optics, electronic control systems, and computational tools. This precedes a two-semester laboratory sequence that can be taught at an advanced level because of the students' experience. The required capstone senior course is a year-long open-ended challenge in which students partner with members of the faculty to work on authentic research projects, teaming with grad students or post-docs as contributing members to the department's externally funded scholarship. All of these features are important components of our B.S. degree, Engineering Physics, which is officially accredited by ABET.

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