

Abstract Submitted
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A Thriving and Innovative Undergraduate Experiential Physics Program BAHRAM ROUGHANI, Kettering University — The thriving physics program at Kettering University has experienced a three-fold increase in the number of physics majors since 2002. Our unique physics program requires students alternate between on-campus academic terms and off-campus co-op work terms on a three months rotation format to complete their degree in 4.5 years that includes summer as either school or co-op term. Students complete a minimum of five terms (~15 months) of cooperative work terms, and two terms (~6 months) of senior thesis work. The IP of the thesis work done at a co-op site belongs to the company. This has attracted co-op sponsors for our program by removing the IP concerns. The cooperative and experiential education part of our program is required for graduation, without any credits assigned to it. At the end of every co-op term students' work performance is evaluated by their co-op supervisor, which should match expected performance standards. In addition to co-op and thesis, our programs include a senior capstone design project course, concentrations within physics (Acoustics, Optics, and Materials), a required technical sequence outside physics, as well as entrepreneurship across curriculum. The success of our student securing the highest paid jobs for undergraduate physics majors in the nation plus their success in graduate studies are the main "Pull Factors" that has lead to three fold increase the physics majors since 2002.

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