Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Undergraduate Research in Physics as a course for Engineering and Computer Science Majors JAMES O'BRIEN, FRANZ RUECKERT, GREG SIROKMAN, Wentworth Institute of Technology — Undergraduate research has become more and more integral to the functioning of higher educational institutions. At many institutions undergraduate research is conducted as capstone projects in the pure sciences, however, science faculty at some schools (including that of the authors) face the challenge of not having science majors. Even at these institutions, a select population of high achieving engineering students will often express a keen interest in conducting pure science research. Since a foray into science research provides the student the full exposure to the scientific method and scientific collaboration, the experience can be quite rewarding and beneficial to the development of the student as a professional. To this end, the authors have been working to find new contexts in which to offer research experiences to non- science majors, including a new undergraduate research class conducted by physics and chemistry faculty. An added benefit is that these courses are inherently interdisciplinary. Students in the engineering and computer science fields step into physics and chemistry labs to solve science problems, often invoking their own relevant expertise. In this paper we start by discussing the common themes and outcomes of the course. We then discuss three particular projects that were conducted with engineering students and focus on how the undergraduate research experience enhanced their already rigorous engineering curriculum.

James O'Brien
Wentworth Institute of Technology

Date submitted: 01 Oct 2016 Electronic form version 1.4