Abstract Submitted for the PHYSTC16 Meeting of The American Physical Society

Robotics, Technology and the Evolving Self WILLIAM KARSTENS,

MARY BETH DOYLE, Saint Michael's College — We report on an innovative approach to teaching Physics to non-science majors. As noted by Shelia Tobias, author of "They're Not Dumb They're Different" (1990), activity based approaches to the teaching of science can decrease anxiety while increasing engagement with concepts and content. In addition, the current emphasis of the Common Core State Standards is to improve science literacy for all citizens. At St. Michael's College, all students are required to take a lab science and a First Year Seminar course prior to graduation. Rather than having students fulfill these requirements with two individual, fully discrete courses, we combined them into one 8 credit course entitled: Robotics, Technology and the Evolving Self. Activities during class meetings included: discussions, experiments to illustrate fundamental physics concepts, model making, and robotics programming. In addition, students engaged in close readings and analyses of literature on the impacts of technology on society. The semester culminated in projects in which students had to integrate concepts from physics and robotics during a public demonstration of their work. Qualitative data in the form of written responses from students before and after their experience in the course will also be presented. The next steps of this pedagogical approach include (a) refining of the pilot course, and (b) expansion of the teaching model to additional natural sciences.

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