

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

A Physics of Semiconductors Concept Inventory EMANUELA ENE, Oklahoma State University, BRUCE J. ACKERSON COLLABORATION¹, ALAN CHEVILLE COLLABORATION² — Following the trend in science and engineering education generated by the visible impact that the Force Concept Inventory (FCI) has created, a Physics of Semiconductors Concept Inventory (PSCI) has been developed. Whereas most classroom tests measure *how many* facts students can remember, or if they *can manipulate* equations, PSCI measures *how well* students interpret concepts and *how well* they can infer new knowledge from already learned knowledge. Operationalized in accordance with the revised Bloom’s taxonomy, the multiple-choice items of the PSCI address the “understand”, “apply”, “analyze” and “evaluate” levels of cognition. Once standardized, PSCI may be used as a predictor for students’ academic performance in the field of semiconductors and as an assessment instrument for instructional strategies.

¹Department of Physics; Oklahoma State University; bruce.ackerson@okstate.edu

²NSF and Oklahoma State University; rchevill@nsf.gov

Emanuela Ene
Oklahoma State University

Date submitted: 27 Nov 2010

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