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.

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