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**An Energy First Approach to Introductory Physics** CHRISTOPHER WHITE, DANIEL MEYER, KIMBERLY FLUET, Illinois Institute of Technology — While introductory physics texts and curricula vary in scope and sequence, there is one aspect that is particularly stable: the progression that begins with equations of motion, continues through Newton's Laws, and finally leads to work and energy. While this approach seems reasonable, it can lead to student misconceptions, and is not necessitated by the physics. In particular, it implies that energy is dependent on forces, rather than both being independently definable. In this paper, we discuss taking an Energy First approach, that begins with energy, and utilizes it as the core concept. We address both the pedagogical and conceptual reasons for this approach. Finally, we discuss its use in two introductory courses, one designed for elementary teachers and one designed for architecture majors. In each, we have focused on defining a scope and sequence that is appropriate and meaningful for that audience, rather than continue with a standard, generic approach to introductory physics.

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