

Abstract Submitted
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Fluid Mechanics: The Pamphlet EVAN VARIANO, UC Berkeley —
One impediment to student learning in introductory fluid mechanics courses is that the fundamental laws of physics can become lost in the “noise” of dozens of semi-empirical equations describing special cases. This can be exacerbated by trends in textbooks and other teaching media. This talk will explore a minimalist approach, whereby the entire content of introductory fluids is distilled to a single 1-page pamphlet, designed to emphasize the governing equations and their near-universal applicability. We are particularly interested in hearing feedback from the audience on ways to further distill the content while keeping it accessible and useful. To further emphasize the difference between the fundamental laws and the many specific cases, we have begun assembling a complementary resource: a field guide to fluid phenomena, which mixes the approach of Van Dyke’s book with a standard field guide. This is designed to emphasize that there is a “zoology” of fluid phenomena, to which the same small set of fundamental laws has been applied repeatedly. These materials may be useful in helping AP Physics teachers cover fluid mechanics, which is an under-utilized opportunity to introduce young scientists to our field of study.

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