

Abstract Submitted
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Ups and downs of using “kitchen sink” experiments in an introductory fluid mechanics class NIGEL KAYE, Clemson University — Both positive and negative experiences from two semesters of using take home “kitchen sink” experiments in an introductory civil engineering fluid mechanics class are reported. Four different experimental assignments were given each semester to groups of four students. The students were tasked with using common household equipment to measure various properties of fluids or fluid flows. These included the density of cooking oil, the exit velocity from a garden hose, and the mass flux of air from a compressed air can. Students were given minimal guidance on how to do the measurements and each measurement had to be done in at least two different ways. The labs were used to relate their course work to everyday situations and was also used as a platform for discussing experimental uncertainty and error propagation in calculations. In general the students successfully completed each task using at least one method. Finding a second method sometimes proved problematic. The presentation will discuss the logistics of running the program and the positive and negative aspects from the instructor viewpoint. A summary of student feedback on the labs will also be presented. Links to resources for those interested in implementing such a program will be provided.

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