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Teaching Philosophy

Physics is not for spectating. It demands participation, curiosity, and hands-on interaction to truly grasp its principles. I reject passive, lecture-heavy models in favor of active engagement, which has shown to build deeper understanding, confidence, and retention. While some physics instruction can rely on slideshows or pre-written notes, I've witnessed how these approaches leave students disengaged and wanting. I've witnessed students thrive by doing physics–writing on boards in groups, testing hypotheses in labs, and debating in groups. They move from passive observers into active participants. These instances also allow for collaboration and inclusivity. Collaborative work aims to teach everyone, as peers often explain concepts in ways I might not anticipate or in a way that a fellow student will understand.

Engagement alone is not enough. Structure and accountability are equally critical. Homework should reinforce intuition without becoming busywork. I assign handwritten problems (no online platforms) and grade them with a balance of particaption credit and partial credit, ensuring effort is rewarded with maintaining rigor. Exams are frequent and focused, testing recent material to prevent cramming that plagues high-stakes midterms. While arithmetic and unit analysis have their place, they should serve physics, not the other way around. Labs, for instance, are the ideal setting for connecting numerical intuition to physical phenomena, not homework or exams.

Above all, I strive to create a classroom where physics is embraced as a tool for understanding the world. Many students claim not to be "math people" but with patience and active engagement we can promote learning. I want to produce thinkers not calculators and for students to apply physics (or problem solving skills) to everyday challenges in any field. Every student–regardless of background–deserves to experience physics as it is meant to be, as an exploration, a debate, a collective push against the boundaries of what we know. I hope to make it accessible to all students, not just those who've been historically privileged.