

## Teaching Statement

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My teaching philosophy emphasizes clarity, rigor, and engagement. In teaching physics and astronomy at both the undergraduate and graduate levels, I aim to make challenging concepts accessible while encouraging students to think critically and creatively. Having taught a wide range of courses—including introductory astronomy and physical science, calculus-based university physics, and upper-level astrophysics—I have developed a teaching style that adapts to diverse student backgrounds and prepares them for advanced study.

Students consistently describe my lectures as clear, organized, and approachable. I foster active participation through problem-solving sessions, group work, and Socratic questioning, ensuring students not only solve problems but also understand the underlying principles. Evaluations highlight that I “explained concepts in multiple ways until everyone understood,” that I “was always willing to help,” and that I “made physics interesting and less intimidating.” My goal is to create an inclusive classroom environment that builds both competence and confidence.

At a research-intensive university, I see teaching and research as mutually reinforcing. My work on black hole–galaxy scaling relations, causal discovery, and the use of AI/ML in astrophysics naturally creates opportunities for student involvement. Undergraduate projects may include symbolic regression analyses of galaxy scaling laws, while graduate students can pursue advanced research questions using simulations and causal inference methods. By integrating students into my research program, I provide them with hands-on experience in data science, computation, and astrophysical modeling—skills that are valuable across academia and industry.

In both introductory and advanced courses, my goal is to help students connect theory with evidence, equations with meaning, and computation with discovery. At the graduate level, I am especially committed to mentoring students as they transition into independent researchers capable of leading their own projects. In all contexts, I aim to inspire curiosity, foster resilience, and equip students with the tools to contribute to cutting-edge science.