

TEACHING STATEMENT

My goal as a teacher is two fold: 1) spark curiosity and excitement in my students so that they can continue the learning process on their own; and 2) help them develop the communication skills and research tools needed to be professionals and citizens in the interdisciplinary, fast-paced world in which we live. I believe that focusing on the *how* and *why* of learning as opposed to the *what* is the best way to help students achieve success. ***Thus, I model learning as an iterative process in the structure of courses, focus on teaching students broad-based skills and align assessment with this goal, use student feedback to guide courses, and explain to students the rationale for course activities and goals.*** Through the use of these strategies, I endeavor to create the opportunity for learning and discovery both inside and outside of the classroom.

While my research is centered on my skillset as a plant and microbial evolutionary ecologist, my background is broadly interdisciplinary ranging from ecology to genomics and from fieldwork to building computer simulations of behavior and evolution. With such breadth, I can teach introductory courses ranging from genetics/evolution to ecology. Further, I can develop upper-level seminars on organismal responses to climate change, adaptation to extreme environments, plant-microbe interactions, or measuring natural selection.

I have been teaching in informal ways for much of my life, but honed my skills in college and graduate school. I have multiple Teaching Assistantship experiences ranging from introductory genetics at Carleton College to upper-level seminars at Duke ([course materials](#)). Additionally I have pursued formal training as an educator by taking pedagogical coursework, guest lecturing, and observing others in order to obtain a [Certificate in College Teaching](#) from Duke. I have put these skills into practice in co-designing and teaching a three lab module to Duke sophomores called “Data Expeditions: Exploring the genetic basis of yeast biofilms”([course materials](#)). Finally, in my last semester of graduate school, I designed and taught a special topics seminar to junior biology majors entitled “Topics in Evolutionary Ecology: Extreme Life Styles”([syllabus](#), [course materials](#)). In addition to these more formal teaching experiences, I have successfully mentored undergraduate students through individual projects, graded final exams, judged science fairs, and developed teaching materials for middle school students.

In teaching I emphasize and model learning as an iterative process. I do this both by providing frequent detailed feedback and by fostering peer review processes amongst students ([example peer review](#)). I believe that frontloading the review and revision process, and investing the students in the writing process drives better quality work; it has the additional benefit of making the final grading process simpler and making the course feedback I receive from students more thoughtful and constructive. Further, my philosophy is both to explain to students the rationale behind coursework and to continually incorporate feedback from the class. I find that this strategy creates powerful buy-in with students particularly in small courses where participation is vital.

First and foremost, the learning goals for my courses revolve around students acquiring communication skills and research tools so that students learn *how* to do things, rather than focusing on instruction of simple facts. For example, in one course I assigned synthesis projects on a topic of the student’s choice ([assignment description and rubric](#)). Throughout the semester, students completed smaller exercises to practice the skills needed to complete the final project (Student work: [Synthesis, Presentation](#)). In addition, I pay particular attention to teaching skill sets that are barriers to entry for women and minorities such as data analysis and programming languages.

In sum, I have explored a diverse set of teaching roles, ranging from mentor to instructor, across multiple educational contexts. I believe that good teaching reflects an iterative process of creative planning with thoughtful implementation of changes based on outcomes and feedback. I particularly enjoy working through the teaching process with others, and I look forward to teaching in an academic community where I can learn from the expertise and experience of my colleagues.