Teaching Interests

Steven J. Schrodi

Teaching Philosophy

Teaching science has always been an interest of mine. Effectively communicating key scientific concepts is something that I thoroughly enjoy. I strongly believe that topics in the biological sciences be taught with a strong emphasis on mechanisms and quantitative approaches presented within the background of the unifying principles of biology derived primarily from evolution and biochemistry. My approach typically is directed toward the students developing an understanding of biology through the interplay between robust and clever experimental designs, collection of data, the development of hypotheses, and formal testing of ideas through statistics. This approach both illustrates how biological research is conducted and aids in elucidating fundamental biological concepts. Where feasible, I would like to rely on original research articles at the upper undergraduate and graduate levels. Additionally, I view open-ended problems for students to solve as essential for cultivating creativity and independent thought.

I have been extraordinarily fortunate to have had several extremely capable mentors. They were all patient, motivating teachers who knew the subject matter to such a depth as to make clear, cogent explanations effortless. Their insights cut through superfluous details and unified seemingly disparate observations to reveal core ideas central to biology. I hope to be the same.

Background

I began teaching in high school where I tutored several students in mathematics, history and science and taught an oil painting class for four years. As an undergraduate, I worked at a tutoring company in northern California and did private tutoring for four years. Throughout graduate school, I held a teaching assistant position where I participated in teaching fourteen courses ranging from introductory biology, genetics, advanced genetics, biochemistry, plant physiology, ecology, physiology laboratory, to classical mechanisms and electricity & magnetism. In addition, I also worked for three years at a tutoring company teaching mathematics and taught Kaplan MCAT preparation for two years. At Marshfield, I mentored a high school SMART (Students Modeling a Research Topic) team where we modeled the protein structure of the immune protein Csk. The students presented their work at the American Society of Biochemistry and Molecular Biology Experiment Biology Conference in San Diego. I have mentored several Marshfield Clinic Research Institute summer students and currently mentor a Postdoctoral Fellow, Dr. Shicheng Guo (started 11 months ago). Dr. Guo and I currently have three manuscripts under review at high impact journals.

Specific Teaching Interests

I would be delighted to develop curricula and teach courses at all levels of undergraduate and graduate education in introductory genetics, statistical genetics, population genetics and human/medical genetics.