

Teaching Philosophy Statement

I genuinely enjoy teaching students in the classroom, and have taught introductory Biology lectures to senior high school students, undergraduate Molecular Biology labs, as well as Microbiology and Biochemistry lectures and labs. My primary goal as a teacher is to help students form a dynamic purpose-driven way of learning within the context of biology. Adapting this style of learning ensures that my students will not only have the necessary information and skills to be successful in my course, but also be successful in whatever endeavors they will pursue in the future.

I believe that dynamic purpose-driven learning can help students develop self-motivated objectives. At the beginning of each semester, I will make it my priority to get to know each of my students, their names, majors, years and their future goals. My intention is to create a comfortable and inspiring learning atmosphere for my students. Many students taking my classes would probably have set goals for medical school and vet school. With a long journey ahead of them, I will always encourage them to see the big picture but take small steps through every class and lab. For example, in the Microbiology laboratory course I currently teach, I bring in some clinical cases during each pre-lab lecture. Bridging lab material with clinical cases inspires students that what they are learning is applicable and has the power to save and cure, which in turn prepares them for their futures and helps them to maintain a big-picture mindset at heart.

When I see students being confident in the class, I know that I am teaching effectively. This confidence is not about them being able to do everything perfectly right, but about them being able to comfortably ask questions and strive for the best. Though they undoubtedly make mistakes, many of my students still have the confidence to continuously learn and grow in my classes. For example, one of my students made a mistake in a graded microbiology practicum during the lab and he raised his hand for help. My first response was to reassure him that together, we could find the solution. After talking with him for a while, we were able to think of a solution that would not impact his lab progress and final lab result. I believe that making mistakes in a lab is entirely natural and acceptable as part of the learning process, especially when the students are working on some new lab work. As a teacher, I would use these mistakes as opportunities to guide students in critical thinking in order to solve a problem or correct a mistake.

I would like to use my class as a type of media to connect students to the real beauty of science, leading them to think how science could explain, impact and improve our life. Biology is a lot more than just contexts and concepts, it is learning about a living organism. For example, in the summer course I designed and taught in the Upward Bound Program at Penn State which helps a diverse population of motivated first generation high school students to achieve their goals of reaching and succeeding in post-secondary education, I included topics of bioethics on biology research. Students were assigned to different cases of ethically-controversial biology research, and shared their opinions and what they would do if they were in those scenarios. These types of activities help students understand that biology technology is a double-sided sword. I have also arranged field trips to the Arboretum at Penn State during the period that students learn about plant development, which helped students understand more about flower structures and relationships between pollinators.

Undergraduate research is an outstanding way to provide hands-on opportunities to explore various career paths outside of classroom. I was very fortunate to have this experience as an undergraduate, and these experiences helped establish my own career. As a graduate student, I am also fortunate to have the chance to mentor master and undergraduate students in the lab. I also look forward to innovate new opportunities to interested students to biology-related internships, biology-related volunteer work on campus, in the community, and beyond.

Collaboration and connections in science are a very powerful way to bring new ideas from people with different expertise. I encourage students to work closely with their lab partners and discuss in pairs to interpret lab results. Using the connections between students and understanding their big goals, their peers, the teacher, the real world and the course contents, I hope I can help my students not only be successful in the courses, but also form a positive and dynamic purpose-driven and error-acceptable way of learning which would nurture their success in any of their future endeavors.