

## **Megan Schall-Teaching Philosophy**

Teaching at the collegiate level is truly an honor. I quickly recognized that I am meeting my students at a challenging, exciting, and transitional life stage, one where their decisions direct their future. Because of this, my teaching philosophy has been centered on creating experiences and opportunities for my students so that they can learn more about themselves. I focus on three main philosophical goals in teaching my classes: building students' confidence with science, helping students recognize the beauty of human diversity, and responding to students' learning needs.

I am often disheartened by the number of students who come into my classes with a negative perception of biology. I have learned through conversations with my students that previous experiences are powerful in shaping one's current perception. And while I admit that I teach challenging science courses, I still believe that concepts can be presented in a way that overcomes learning barriers; challenging does not need to mean abstract and unrelatable. Instead, by using real-world connections, students can better relate to the importance of concepts and become more invested in understanding why science is important. So, I have incorporated relevant applications of science throughout my courses. The most comprehensive example is the redesign of my cell and molecular biology course, which features a student research-based laboratory experience. Students are provided skills in the laboratory to solve a real-world scientific problem. I have students first study a single-celled pathogen that infects fish in local waterways using cellular and molecular techniques. They learn to be diagnosticians and then apply those skills to their own inquiry-based experiment. In this respect, they not only understand important principles, but can connect those principles with how they are used in scientific disciplines. I am inspired every year when students reach the end of their research project and connect the dots between the class material and their very own investigation.

Another fundamental goal of my teaching philosophy is to create a learning environment that demonstrates the importance of our unique qualities. I am fortunate that I get to discuss genetics in most of my classes. I use genetics to emphasize the importance of diversity, unique traits, and empathy for others. In my human genetics course, I talk with students openly about genetic disorders and share with them my personal story of living with a genetic disorder. I use this opportunity to break down the stigma associated with disease. I challenge my students to embrace differences and recognize not only the importance of genetic variability in humans, but to celebrate it. Students are then tasked to research and present a genetic condition to the class. I often find that students have the courage to talk about their own genetic traits or those of family members, which is both inspiring and empowering. In all my classes, I work to create a classroom environment that promotes discussion, learning, and confidence to talk openly, even about debated scientific topics. I ask students to consider multiple perspectives in science even if they do not agree with those perspectives.

I prioritize making my teaching responsive to the varied ways my students learn. I think it is essential that students gain skills beyond the foundation of educational material, and I work diligently to help my students dissolve abstract concepts. Although quizzes and exams are important components in my classes, I also incorporate varied modes of assessment including activities, group projects, and written and oral assessments. I pause to check in on my students and reflect with them on what they are learning, making my teaching philosophy an evolving process that not only imparts knowledge, but is also informed by my students' needs. Most recently, I have incorporated new ways to explain topics, and then provided supplemental activities or handouts based on student feedback.

My goal is that my students leave my classroom not only with a deeper understanding of science, but more importantly, experiences that generate confidence in their own abilities and build skills for their future. I often incorporate my students' ideas into the learning process and listen carefully to them to better understand challenges they are facing inside and outside of the classroom. Ultimately, I work to help my students develop a comfort level talking about science, whether it is celebrating genetics and our unique characteristics or building confidence in their own scientific abilities.