Statement of Teaching Philosophy Alanna Durkin

My objective as an educator in biology is for students to walk out of my classroom with a more complete conceptual understanding of life. I have two primary approaches for achieving this goal. First, I incorporate active learning in the classroom to engage my students and put them in the driver's seat of their educational experience. Second, I embrace the digital tools available for education in our increasingly online world to empower my students to develop skills and comprehension outside of the classroom. Biology with all its complexity and vocabulary can be daunting, but I foster higher levels of learning in undergraduates and engender passion for the life sciences by reminding students that learning is not a spectator sport.

As a lecturer, I keep actual lecturing to a minimum in my classroom. In my practice as a lab instructor, I limit my lecturing to a short introduction at the beginning to ensure my students understand the day's learning goals and are prepared to carry out the experiment safely and effectively. The majority of the class time is spent interacting with students one-on-one to monitor both their experimental methods and understanding of the content. During the lab, students are usually required to work together to complete the experiment. I regularly divide my class into different groups to ensure students connect to all their classmates and to build their professional communication and teamwork skills. I then end each lab with an active lecture summary where I ask the class questions to assess their comprehension of the learning objectives and larger themes. In Human Biology, an introductory biology lab for non-science majors, I have witnessed many students having "aha" moments after I encourage them to connect the lab concepts to processes happening in their own bodies. For example, the opaque chemical symbols in the equation for cellular respiration became suddenly coherent after I pointed out that the balance of carbon dioxide and oxygen matches the air entering and leaving our lungs with every breath.

Incorporating active learning is more challenging in large, lecture-based classes, so in these situations I use more advanced techniques to engage students individually or in groups. I learned many strategies for integrating active learning into lectures through Temple University's Teaching in Higher Education Certificate, and I have continued to work with the Center for the Advancement of Teaching (CAT) on campus to perfect these strategies. As recommended by research on students' attention spans during uninterrupted lecturing, I break up my lecture approximately every 10 or 15 minutes with questions to assess students' comprehension and give them time to assimilate the material. As a guest lecturer for Experimental Marine Biology, I shifted the focus of the nearly two-hour class period from lecture to student-led discussion of papers and groups performing internet research together on the lecture topic. The CAT has now invited me twice to be a facilitator for a breakout session at Temple's Teaching Assistant Orientation where I demonstrated several techniques for active learning to my colleagues.

When engaging students, I strive to make sure that *all* of my students are able to succeed by using inclusive language and a Universal Design for Learning (UDL). To provide multiple means of representation, I leverage the online resources available to give my students digital tools to utilize in the classroom and at home. For topics that would benefit from a more visual, dynamic representation of the concepts than that offered in their textbook, I curate YouTube playlists of educational videos so that they can see an animation of a complicated chemical

reaction or a different instructor's approach to explaining physiological processes. In all of my classes, many students have taken the time to tell me how much they appreciated these playlists to help them study for exams and connect the facts they learned in class together into a bigger picture.

To help students master quantitative techniques and computational skills, I also create original content that follows UDL guidelines and utilize Microsoft Word's built-in tools for creating accessible documents. Whether they are displaying data collected in lab using an Excel graph or mastering a programming language, students come to the classroom with vastly different levels of experience in these applications. To provide a scaffolding for students lacking the fundamentals, I make step-by-step guides that include screenshots and detailed instructions and share them through the online learning management system. After I introduced these tools to my students in Human Biology, Experimental Marine Biology, and Programming for Biologists, I was amazed at the rapid transformation in everyone's course experience. Now that all students were coming to class with the same baseline skills, my time during recitation and lab could be spent teaching advanced data analysis and answering more in-depth questions about the material. This was especially effective in Experimental Marine Biology where students were required to learn many scientific skills for the first time in a short, intense summer course. These upper-level biology majors were able to devote more time to interpreting experimental results, applying statistics to their data, and writing up publication-style lab reports once they no longer struggled with the mechanics of entering and manipulating data in Excel.