Our time with students is limited, just a few hours a week for a handful of months. As a result, my teaching is rooted in helping students develop life-long learning skills that equip them to engage local and global challenges in meaningful, rewarding ways. I design my field courses, labs, and classrooms for an increasingly wide range of students to learn actively, in turn developing critical thinking skills, effective communication styles, and marketable experience.

Alignment is a key facet of my teaching – course learning objectives need to align with curriculum objectives which need to align with tangible career skillsets. For example, analytical and critical thinking require students to draw on quantitative and logical skills developed across the entire curriculum. Students in my courses develop specific skills requiring quantitative reasoning that include coding for applied statistics, forming and testing hypotheses, evaluating real-world problems, and confronting misinformation in everyday life – skills they apply in any course as well as in their lives. To teach many of these skills, I pair online active learning courses as homework alongside my own code and learning modules as in-class activities (e.g., DataCamp's "Machine Learning Toolbox" with a study module where students predict species responses to climate change).

Reasoning skills are complemented by clear and effective communication, which is equally important to student success. Learning to writing clearly and simply in science is nuanced and can be frustrating – I've felt this firsthand and seen it while discussing feedback on writing assignments with students. Because of science writing's importance and specialized challenges, I've sought out formal training in designing writing activities. I facilitate a safe environment for students to write often and make mistakes. To do this in a timely manner, I grade early drafts on effort and identify one key area for improvement based on criteria for a high-quality final product. One of my favorite course evaluation comments - "I've never gotten so much feedback on my writing, thanks!" – came after iterating over drafts and feedback three times, one of which included multiple peer reviews with other students.

I've found applying active learning principles to be intuitive in labs and upper level courses where I'm able to devote more time to teaching one-on-one and in small groups. The most challenging aspects of these courses are related to logistics, where genuine inquiry and discovery need to be reached in brief class sessions. In our Limnology lab, I led field trips to local lakes and streams that also served as sites for individual and group research. Individual research included a written scientific paper analyzing data collected from small, canoe-accessible lakes near our research station. In group work, I function as an advisor helping groups generate and "publish" studies that they present formally to the class. Teamwork and group discussion present opportunities for students to grow as leaders. I couple clearly defined roles, rules, and evaluation metrics with my own active listening and direction to facilitate insightful and inclusive collaboration and discussion.

A key advantage of larger courses is the opportunity for rapid and abundant feedback regarding student attitudes and learning. As a rule of thumb, I lecture for no longer than 10 minutes at a time. These pauses between providing an overview of course content allow me to incorporate a wide range of 2- to 15-minute learning activities (e.g., think-pair-share, quick writes, clicker questions, games, and case studies) to engage an equally wide range of learning styles and personalities. When I taught our large Limnology Lecture course, I designed activities ranging from paired discussion and games to small group field trips to nearby lakes. I embed learning assessments in a subset of these activities to check in with students early and often throughout the semester.

More generally, my assessment of students is grounded in learning and mastery over course material. In more conceptual or topical courses, I use student presentations and papers, each with clear rubrics for high quality work to evaluate students' grasp over content. The final products students prepare for my courses mirror tasks they will be asked to do in their careers (e.g., writing reports, presenting complex problems without obvious solutions, or delivering geospatial tools for a user group). In courses with a focus on comprehending and applying a breadth of subject-specific knowledge (e.g., core concepts and proficiencies), I pair exams with activities that familiarize students with my exam writing style.

While I have experience teaching in multiple course settings and a foundation of teaching training from the UW Delta and the UMN Preparing Future Faculty programs, I am committed to continually improving as a teacher. Given limited time to invest in professional development, particularly when I've been both teaching and researching, these opportunities have come from aligning my teaching and research. My research skills have prepared me to develop and learn from tools to evaluate student learning and end-of-semester student evaluations. I seek out formal trainings and workshops whenever possible. For example, I regularly attend teaching workshops and sessions at society conferences, where I learn specific approaches for teaching in my field.

Effective mentoring is important, and I've learned a lot from mentoring 23 students through 91 semesters of research. There's no substitute for practical experience alongside a professional, both for gaining expertise in a desired field or discovering new, more well-suited fields. Nearly all my mentees have been talented and driven, but common career "pivots" can derail even detailed plans. These times can be stressful and exhausting, and students can spend energy pursuing careers they find less satisfying. I've helped three students alter course to more gratifying career trajectories that utilize their strongest skills. At least 16 of my undergraduate (and two high school) mentees are pursuing graduate work or careers in their desired field. I look forward to advising students, as I enjoy this process of creating and adjusting development plans early and often over multiple years.

Maintaining relationships for public outreach and communication opportunities is important to my research program, and I engage undergraduates in this process to increase their skills and confidence in science communication. These relationships also provide the necessary partnerships for service-learning courses and student internships. I integrate my networks (e.g., resource management communities) into my courses and mentoring to ensure that students can leverage my connections for their own learning and professional development.

I seek out opportunities to support equity, diversity, and inclusivity on campus. I was raised with Ojibwe values of creation and our place in it, and I'm thrilled to be a part of the UMN Circle of Indigenous Nations and the Graduate and Postdoctoral Alliance for Diversity and Inclusivity communities where I'm mentoring undergraduate students and developing undergraduate research opportunities in my department. I also served on the Center for Limnology's Diversity and Inclusivity committee for four years, where I focused my efforts on accessibility in our undergraduate research program.

I work hard to prepare all students to impact the world through developing the skills they need to be successful in their lives, careers, and communities, and I'm grateful for a career that allows me to do so.