
Teaching philosophy and style

Student learning styles and academic backgrounds vary in college settings. Some students are analytical and math-minded, while some are imaginative and visual learners, and others respond best to aural stimulation, keying-in on verbal reasoning. This is why I use a variety of teaching tools and techniques in conjunction with one another (e.g., real-world analogies, simple experiments, cartoon diagrams, mathematical expressions, real data). This maximizes student comprehension of complex Earth processes.

The environment of my courses is fresh and welcoming. I do not adhere to traditional models of lecture, homework, and exams. Instead, I foster a collaborative and interactive atmosphere where students create their own learning path together with me and with one another. For core geoscience courses, coursework centers on hands-on exercises where students use real data and analytical methods to solve problems and create real products that they can be proud of. Students frequently write reports of their process to reflect and build critical thinking capacity. Informal presentations offer students a safe space to practice their oral communication skills. I guide peer-involved positive feedback and constructive criticism, which have a lasting impact as students move toward a professional career.

Emphasis on project-based learning allows students to develop foundational skills that can be carried through a variety of professional geoscience careers. These foundational skills are:

1. Reading maps/understanding scale
2. Thinking in 4D
3. Learning new software/coding
4. Getting comfortable with mathematical expressions
5. Technical writing
6. Oral communication

Whether a student plans to pursue academics or a professional career in critical minerals, alternative energy, fossil fuels, environmental remediation, or government service, these skills are crucial. Course environment and coursework are designed to build these skills in every student. Examples are given in the following sections.

I value the opportunity to learn from my students and serve their unique needs. This is accomplished through teamwork and clear, positive communication about respect, boundaries, and expectations. In particular, my experiences teaching underrepresented groups and nontraditional students at New Mexico State University and New Mexico Tech have prepared me to connect with students of diverse backgrounds. Many of my previous students were Hispanic, Native American, LGBTQ, middle-aged, and/or first generation. I worked also with students who have learning disabilities. Engaging with such diversity in a welcoming academic setting has been highly rewarding and refining to me as a person.

Academic integrity and collaboration are required in my classroom. Students are encouraged to work together in teams, share ideas, and delegate project tasks. However, individual writing components foster independent critical thinking among all students. Writing also seems to be one of the biggest challenges for young students, and therefore is exercised frequently.