FACULTY SPOTLIGHT

Dr Janice M Hayden
Assistant Professor of the Practice in Geology
Janice Hayden, full-time faculty of the College of Science, Engineering and Technology, and exemplifies the expertise and caring that Dixie State University provides to students. Janice has extensive experience as both a professional field geologist and a university professor, and brings innovation to DSU through practical hands on learning in the classroom and applied teaching methods to students in the field.

Hayden attended Brigham Young University where she earned both her Bachelor and Master of Science degrees in Geology. She became a petroleum exploration geologist fresh out of school, but eventually found her way to teaching. For several years she worked as a high school teacher, an adjunct professor at DSU, an instructor for DSU's educational travel program, Road Scholar, and was also a mapping geologist for the Utah Geological Survey. While working at the Utah Geological Survey, she created and published geologic maps and their supporting material for St. George and other areas in southern Utah. These maps include soil types, geological formations, geologic hazards, water and mineral resources, faults and more. These maps have many practical applications including being used by various municipalities to develop building codes for residential, commercial and industrial development as well as identifying water resources. She is a great resource to many geologists and universities in Utah.

Janice left those jobs behind and transitioned to a full time position here at Dixie State in 2014, where she teaches physical geology, structural geology, physical geography and Geologic Explorations of Iceland in both traditional and field class settings. Her extensive knowledge about our local region allows her to lead excursions to nearby national and state parks. These excursions replace one credit of the traditional physical sciences GE laboratory requirement. The field classes promote innovative, place-based learning and are held over an intensive several days. She also takes her classes around St. George, Zion National Park, Bryce Canyon, and the Grand Canyon so students can see the actual geologic formations and structures that have been discussed in the classroom setting. There is a noticeable difference in student retention of material because there’s more connection to the real world. For example, students gain a deeper understanding as they investigate the geologic history and processes shaping the region, inherent geologic hazards, and natural resource use and availability. It’s apparent to her that, overall, there is a
happier attitude toward learning, and students are more willing to participate if they have seen the examples from a classroom or lab applied in the field. She has noticed that students who take these field classes have a deeper appreciation for Earth and their own place in the world.

Janice also teaches traditional semester-long courses, which include a shorter day trip into the field. Both types of classes meet the same learning outcomes, however they are accomplished via different teaching methods. The traditional class is slower paced and Janice finds that she goes more in depth to guarantee that students fully grasp each topic, since they aren’t seeing live representations in the classroom. To create a captivating lecture, she supplements her teaching with activities and mini experiments to solidify the textbook topics. Some examples are using samples of Earth materials, exploding alka-seltzer volcanoes, comparing fingernail growth to tectonic plate movement, and taking trips to the cemetery to study weathering of headstones made of different rock types.

The results of the field class experience are evident: students who take both the traditional lecture and the field class perform better than students who only take the traditional class. Janice can see that when students learn topics in the lecture that they already covered in the field class, their memory is jogged and they have a head start. Also, students who aren’t science majors enjoy learning in this manner because it engages them more effectively than learning from the textbook. The immersive experience proves more effective than just memorizing examples from class because it creates a real connection and appreciation for the subject matter.

Some feedback students have about their experience:
• Not only is the professor a registered professional in her field, but also the amount of knowledge, experience and professionalism are indeed a great strengths. Another one and probably the best of all is her dedication, preparation and the amount of ways to impart knowledge so the learning process is fun and rich. The teaching methods available in class were so varied and well applied that topics that could be seemed as boring became quite interesting and fun to learn. Professor Hayden is a great asset to a university like DSU that strives for good teaching.
• Strength of the class was having the opportunity to visit and explore so many parks, and get first-hand experience. This was a great way to start building a solid foundation for those that are new to Geology.
• She made sure that we understood what she was saying and her passion for this subject showed through her teaching and made me excited to learn and interested in what we were learning.

Hayden has a passion for what she teaches and she especially loves making a difference in student’s lives. Helping her students understand that geology applies to their lives more than they realize is an important learning outcome. She has also assisted undergraduate research projects for students at BYU and SUU through helping them with their field work. Dixie doesn’t have a geology major, so some students who have taken classes with Hayden, and then transferred to SUU, often consult with her as an additional educational resource for their geology projects such as in-depth research of lava flows and breccia pipes that are possible hosts of uranium near Virgin, UT.

Hayden still is an occasional instructor for the Road Scholar program through DSU and has a Volunteer Agreement with the Utah Geological Survey to complete Open File reports on mapping projects in southern Utah. Some of these projects could be adapted into undergraduate student research if DSU approves a geoscience degree. Our science department is lucky to have such a knowledgeable professor on campus. Way to go Professor Hayden for making the learning process a fun experience for students!