Keeping Students Active, Engaged

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The Gilbert File

At Linfield since 2001
B.S. University of Arizona
Ph.D. Indiana University
Post-doctoral fellow, Massachusetts Institute of Technology
Prior teaching position: Coastal Carolina University

Academic interests:
Experimental physical chemistry and nanotechnology, including characterization of the physical and chemical properties of nanoparticles, Raman spectroscopy and surface-enhanced Raman scattering.

Finding his place in the classroom

What began as a practice application for a job resulted in Gilbert’s first teaching position in South Carolina.
He quickly found teaching was a
Keeping students active, engaged

perfect fit. He liked interacting with students and enjoyed helping them grow in their understanding and abilities. One of Gilbert’s biggest challenges is keeping a broad range of students – including majors and non-majors and freshmen through seniors – engaged and learning.

In addition to teaching rigorous courses such as physical chemistry to majors, Gilbert also leads general chemistry, laboratories and instrumental methods, where students learn how to use various chemistry tools. He taught a January Term study abroad class in Chile with Jackson Miller on The Science and Discourse of Global Climate Change. But it’s his January Term class, The Art and Science of Brewing, that captures the attention and imagination of majors and non-majors alike. Gilbert designed the class as a way to teach non-science majors chemistry in the context of something they were interested in. It has become one of the most popular January Term classes and it often has a waiting list of students eager to enroll.

“There’s so much great fundamental chemistry involved in brewing, such as how temperature and pH affect the action of proteins and how heat and time in a reaction affect the rate of conversion of compounds,” Gilbert said. Students analyze the chemical processes that occur at each stage of brewing and learn how organic compounds help create aromas and flavors.

Teaching requires being adaptable and really caring about the success of students, which means finding techniques to reach them regardless of background and knowledge. “I think it’s dangerous to think that if you lecture all the time that the same lecture will always work with different groups of students,” he said.

Gilbert’s ability to engage students in discussion complemented his lectures, according to Katie Sours ’10, who just completed her master’s in public health and is currently working as a lab instructor for organic chemistry and physiology at Linfield.

“Brian’s lessons helped me develop critical thinking skills and the comfort and ability to ask questions,” she said. “Discovering why and how chemistry works from the ground up pushed me to do the same in other courses at Linfield, gave me an advantage in my graduate studies, and has contributed to the skill set I use outside of school.”

Gilbert’s willingness to meet with students individually helped Sours understand concepts she couldn’t grasp during classes. “We applied math, physics and other chemistry concepts to derive formulas and concepts from their roots,” she added. “This enabled us to really understand how they worked.”

– Mardi Mileham