**2020 DINÉ Seminar Topics**

Teaching Chemistry using Real-world Applications and Problems

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Professor of Chemistry

Do you think students would be interested in learning how an explosive, exothermic reaction protects a bombardier beetle from attack, or how scientists “see” atoms with an atomic force microscope, or how chemical hand warmers work, or how algae convert carbon dioxide into fuel? Chemistry can be relevant, fun, and interesting when taught using real-world applications. This seminar will present at least ten applications followed by problems to solve. The chemistry needed to solve each problem will be identified and discussed. Chemistry concepts covered will include atomic and molecular structure, density, stoichiometry, gas properties, thermochemistry, electrochemistry, freezing-point depression, and kinetics of radioactive decay. Material in this seminar is best suited for high school chemistry classes, but parts of each application can be adapted for grades 3-8.

Native Law

Marianne O. Nielsen

Professor of Criminology and Criminal Justice

All American Indian cultures had laws that were part of their daily lives. They weren’t written down or taught separately but were a part of what children learned from their families. They were communicated in ceremonies, creation narratives, and stories. Each cultural group had its own variations on central values about respect, sharing, bravery, etc. The settler-colonists didn’t recognize these laws and imposed their own. Colonial laws were used to acquire Indian land and resources and to try to assimilate Indian peoples. For example, children had to go to boarding schools by law; ceremonies were forbidden by law; and leaving reservations to find work or go to school was forbidden by law. In Nations where colonial destructive or assimilation efforts were particularly forceful, much of original law was forgotten along with language and spirituality, but many nations hid their knowledge of law and continued to practice their ceremonies and culture. Many Diné were among these people. Diné laws are still used in everyday life as part of ceremonies, narratives, and teaching young people. They are also used in a much more formal westernized sense as part of the Navajo court system. Navajo judges rely on Navajo “common law” wherever possible. Navajo Peacemaking is renowned the world over, and has been adopted and modified by both Native and non-Native communities. Today, national laws present impediments to Diné communities working to tackle justice issues using traditional law. Fellow will explore traditional law and its teachings, some national laws, and the use of common law and peacemaking in their own communities.

Stories of Home and Place: Belonging and Identity in Indigenous Literature & Film

Jeff Berglund

Professor of English

This seminar will examine a range of literature published by Diné writers and other Indigenous writers and filmmakers. Our aim will be to examine multiple genres: poetry, short fiction, nonfiction essays, novels, documentary and narrative films. Selection of these works will be based on a common exploration of the themes of identity and place and an understanding of how “home” is understood. Most writers explore what could be characterized as “relational identities” and how the notion of self is defined in relation (in kin) to others, to ancestors, to animals, plants, and land. Writers will include Diné writers, Blackhorse Mitchell, Irvin Morris, Luci Tapahonso, Laura Tohe, Esther Belin, Sherwin Bitsui, Bojan Louis, Tacey Atsitty, Jake Skeets, and other Indigenous writers, Simon Ortiz (Acoma), Louise Erdrich (Anishinaabe), Linda Hogan (Chickasaw), Ofelia Zepeda (Tohono O’odham), Leslie Silko (Laguna), Joy Harjo (Mvskoke), Susan Power (Standing Rock), Deborah Miranda (Ohlone Costanoan Esselen), Tommy Orange (Cheyenne), and Daniel Heath Justice (Cherokee). Possible films include *The Return of Navajo Boy*, *The Snowbowl Effect, Fifth World*, *Boy,* and various short films. Our goal will be to create units for classes that use literature in meaningful ways to support student reflection on the importance of family and kin, of community, of land, of culture, as central components of identity. Such units will foster critical thinking and intellectual creativity in order to support the development of the transferable skills of analysis and interpretation. Additionally, many of the writers’ works suggest models for student writing about place and home, so this unit will support the practice of writing about similar topics.

Unpacking Place Value

Shannon Guerrero

Professor of Mathematics Education

Many researchers argue that place value is one of the most fundamental concepts taught in the elementary and middle school curriculum. A deep understanding of place value generally connects with stronger overall mathematics understanding for many students. Place value involves an understanding of not only position and value of digits, but also composition/decomposition of numbers, grouping/ungrouping of numbers, and flexible understanding of operational algorithms. This seminar will explore several applications, representations, and operations on numbers that promote a deep and rigorous understanding of place value. Some of these explorations will delve into characteristics of numeration, including base ten (and other base systems), the use of zero, the positional number system, equivalent grouping, and the additive property. Fellows will also explore the meaning and use of various models for place value in promoting deep conceptual understanding of how to represent and perform operations on whole numbers, decimal fractions, and decimal numbers. Fellows will engage as learners in various multi-grade activities while also reflecting as educators on developing strong content understanding and promoting standards of mathematical practice. Research on place value and the mathematical connections between place value and other topics/concepts will also be explored.

Writing and the Specificity of Place

Nicole Walker

Professor of English

In my creative writing courses, I encourage my students to “put your body in a place.” Empathetic narrators need both a body and a place from which to tell their story. If a reader can envision someone walking down a dirt road, stopping to scratch their ankle, bending over, noticing a tiny lizard on a rock, then the reader is effectively walking along with them, scratching their ankle, bending over, noticing a tiny lizard on a rock. That lizard, that rock, that narrator are all securely located in a place. How we write about place can be evoked through specific detail. In this seminar, we’ll show how specific objects can evoke and describe place. For example, Robin Wall Kimmerer, a member of the Potawatomi tribe and a botanist, writes about “Goldenrod” as a focused object. Kimmerer shows Goldenrod through the lenses of botany, history, cultures, religions, philosophies, even physics. Goldenrod is inextricably linked to place and the human understanding of that place. In this seminar, we’ll bring together the objects that inhabit specific place. We will then write to reveal how those objects and that place connect to personal story and cultural history. By understanding how one physical object can be expressed through multiple genres and points of view, Teacher Fellows will not only emerge from the seminar with a multi-layered essay of their own, but will see how concrete and material details underpin the long histories and multiple stories that make up our understanding of place. Fellows will be able to then integrate similar writing strategies with their own students at various grade levels and across content areas.