**2022 DINÉ Seminar Topics**

Solving Problems Through Problem Solving

Shannon Guerrero, PhD

Professor, Mathematics Education

Problem solving can be seen both as a mathematical practice that teachers implement and promote among students, as well as a set of skills and strategies that students utilize as part of engaging in and learning mathematics. Whereas solving problems involves a set of steps used to get an answer, problem solving is a mathematical process and way of thinking that utilizes a wide variety of skills, knowledge, and applications as a way of understanding diverse problem situations. In this seminar, Fellows will broaden their own problem solving skills by engaging in a variety of problems and problem situations. Strategies for solving word problems will also be explored. The beauty of problem solving is that it cuts across all content areas, grade levels, and mathematical practices. We will explore problems situated in culturally relevant contexts that bridge numbers/operations, algebra, geometry, and statistics. Developing a unit that applies problem solving in real world contexts will enable Fellows to implement a unit that is both culturally relevant and mathematically meaningful.

Indigenous Literature as a Window into Social and Emotional Learning

Angie Hansen, PhD

Professor, English

Social and emotional learning (SEL) is an important part of education and human development, as are the arts and humanities. SEL promotes educational equity by empowering young people to contribute to safe, healthy, and just communities. In this seminar we will explore and discuss aspects of social and emotional learning through Indigenous literature including children’s, young adult, and contemporary poetry and stories. We will examine how we can promote SEL for young people, who have experienced major changes brought about by the pandemic. Finally, we will talk about SEL instruction and classroom climate, as well as fostering positive schoolwide cultures and authentic partnerships with our local communities. In this seminar, Indigenous literature and storytelling will be the catalysts and springboards for examining these topics, but anyone who is interested in SEL could create a unit in their preferred discipline.

Toxic Waste, Poisoned Water: Indigenous Environmental Justice

Karen Jarratt-Snider, PhD

Chair and Associate Professor, Applied Indigenous Studies

This seminar will explore the topic of Indigenous Environmental Justice, focusing on issues affecting Indigenous Peoples in the Southwestern U.S. Issues such as water and air pollution, toxic and hazardous materials left on Indigenous lands, destruction of sacred sites, and other Indigenous Environmental Justice issues will be examined, along with tools for finding solutions to these issues. Teacher Fellows will also explore the unique factors of Indigenous Environmental Justice compared to Environmental Justice issues for non-Indigenous communities. Potential case studies include copper mining and sacred sites destruction at Oak Flat in Southeastern Arizona, the San Francisco Peaks ski area use of treated wastewater, uranium mining on Navajo lands (and continuing related issues such as radon), and many more.

Wildlife, Plants, and Habitats of the Southwest

Pete Fulé, PhD

Regents’ Professor, Forestry

This seminar will explore the main habitat types across the elevational gradients of southwestern landscapes, looking at key species of plants and animals. We will investigate the ecological linkages of food webs, predator-prey relationships, and traditional and modern interactions of Indigenous Peoples with plants and animals. The role of domestic animals such as sheep and horses will also be placed in the habitat context. Social elements will include traditional cultural relationships with animals and plants, as well as policy issues such as

protection for endangered species and adapting management to changing climate. The seminar will be organized by habitat type in the following categories: (1) Low elevation landscapes characterized by river valleys, grasslands, and deserts; (2) Mid elevation landscapes with pinyon and juniper woodlands, and canyon country; and (3) High elevation landscapes with mountain ranges and forests, and headwaters of major rivers. We will learn about key species, and Teacher Fellows will be encouraged to add focal species from their own tribal communities.