**Diné Institute for Navajo Nation Educators**

**2023 Seminar Topics**

**Program Website:** <https://in.nau.edu/ine/sample-page/>

**Teacher Application:** <https://forms.gle/esUj6hHHcpVaMxMB8>

**Applications Due: February 7, 2023**

Philosophy, Literature, and the Moral Imagination

Angie Hansen, PhD, Professor of English

Julie Piering, PhD, Professor of Philosophy

We often think of imagination as something more delightful than useful; it is characterized as a *pleasing faculty of the mind* that permits us to either **delight** in an imagined scenario or **escape** from a real one. However, imagination is also fundamental to how we effectively move through the world. To function well, we must be able to imagine future situations, possible lines of reasoning and action, and what it is like to be someone we are not. From a moral perspective, imagination is crucial to the development of **thoughtfulness and empathy**. How, then, can imagination generally, and a moral imagination in particular, be cultivated? One of the most compelling ways is via literature. When students engage literature, they enter into the minds and worlds of persons both alike and different. In so doing, they develop cognitive agility and the capacity to think through imagined situations from **multiple perspectives**. Moreover, because the reality of the characters and plots take shape in the minds of the readers, literature is especially, maybe even uniquely, well suited to the development of a moral imagination. This seminar will explore how a moral imagination can be cultivated through literature by attending to the philosophy behind these ideas and literature that does this particularly well. We invite you to come read and talk with us as we journey through the wonders of the imagination through a *philosophical lens* and the literature that transports and transforms us.

Understanding our World through Geometric Reasoning

Shannon Guerrero, PhD

Professor of Mathematics Education

Geometry has sometimes been called the most influential branch of mathematics for its real-world connections to art, architecture, engineering, scientific modeling, graphics, and design. Geometric reasoning involves using abstract thinking to define, analyze, make arguments about, and form relationships between shapes and spatial reasoning. Students’ geometric understanding is based on the ability to use visualization, spatialization, and concrete representations and models for abstract mathematical concepts, which can serve as entry points to higher order mathematical thinking and reasoning. This seminar will use both measurement and geometry to explore foundational concepts and real-world connections related visualization, properties and relationships, dimensions, and problem solving. Building on their understanding of the uses and applications of geometry, geometric reasoning, and measurement to the world around them, teachers will develop a culturally relevant and mathematically meaningful unit that promotes geometric reasoning amongst their own students.

Quantum Technologies: Preparing students for the next technological revolution

Inès Montaño, PhD

Associate Professor, Applied Physics and Materials Science

We all constantly rely on technology and online connectivity in our daily lives and the COVID-19 pandemic clearly emphasized the gap between those who have access to computers and internet and those who do not. We are now on the threshold of a new era that might increase the already existing divide even more: the age of quantum technology. In the news, we hear about future quantum technologies such as quantum computers and a quantum internet and how they might save humanity or jeopardize it. While there is a lot of misinformation and hype, it is wildly accepted that quantum technologies have the potential to transform our world in unprecedented ways and also the potential to exacerbate already existing inequities. Not only will we feel the impact of who has access to these new technologies and who does not, but at a much higher level who is prepared to work in these new fields and who is not. This seminar will begin with an introduction to quantum technologies. What are quantum technologies? What key concepts do they rely on? Why are they of interest? We will then explore how we provide K-12 students with early exposure to quantum, in a fun and age-appropriate way.