Reasoning and Inquiry in Mathematics Education (RIME):
A Professional Development Project to Promote Dural Enrollment Program
Working Abstract

The Reasoning and Inquiry in Mathematics Education (RIME) project aims to support mathematics teacher quality in delivering dual enrollment courses onsite and improving in such a way as to assist their students' capabilities to take dual enrolment courses. To achieve this goal, RIME will provide professional development to mathematics teachers, particularly those from high-need, rural, minority-serving, and/or low performing schools, throughout the state of Montana.
The proposed project theme aligns with the standard "Reason abstractly and quantitatively" for mathematical practice addressed in the Common Core Sate Standards as described as the following:
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
This project will advance participating teachers' understanding about mathematics content currently offered by high schools and colleges in Montana, increase their knowledge and skills for delivering their school's dual enrollment program mathematics courses onsite, and enhance their ability to prepare their students to take dual enrollment courses. Most importantly, the project will help teachers complete three (3) of the nine (9) minimum graduate credits in mathematics courses required to be eligible to teach in a dual enrollment setting. Tuition support will be provided for taking the additional Math Department courses needed.