

1116-VQ-1897 **Frank Savina***, The Charles A. Dana Center, The University of Texas at Austin, 1616
Guadalupe, Suite 3.206, Austin, TX 78701, and **Stuart Boersma**, Central Washington University,
400 E. University Way, Ellensburg, WA 98926. *Preparing Students for Calculus: Function as
Process and Covariational Reasoning.*

The STEM Prep Pathway is designed as a one-year course created by the New Mathways Project at the Charles A Dana Center that prepares students beginning at the elementary algebra level to succeed in college-level calculus. STEM Prep was designed by several leading calculus education researchers and experienced two-year college mathematics faculty. The curriculum is guided by four overarching principles: 1) developing a deep understanding of the function process, 2) emphasizing the ability to apply covariational reasoning, 3) stressing the facility to communicate about functions and use function notation, and 4) meaningful approaches are used to drive the algebraic content. In terms of content this means that the focus is to explore concepts with multiple representations. In particular functions are experienced as processes not just algebraic formulas, students develop the language and inclination to describe how one quantity changes with respect to another, students communicate orally and in writing, the curriculum is active and set within authentic STEM contexts and models. For this talk we will show examples from the curriculum that support these design principles. (Received September 21, 2015)