

1154-N1-2158 **Suzanne I. Dorée*** (doree@augsborg.edu) and **Jody Sorensen** (sorensj1@augsborg.edu).
Active and Applied Calculus: a SUMMIT-P collaboration.

What calculus concepts, skills, and habits of mind do students need to continue in mathematics, economics, and the sciences? As part of the national SUMMIT-P project, faculty from mathematics, economics, and chemistry renovated the calculus sequence to meet the needs of the partner disciplines. As a result, we shifted limits/continuity to Calculus 2, some differential equations/partial derivatives to Calculus 1, and built a path directly from Calculus 1 to Multivariable. We focused on key tools and narrowed the range of techniques and algebraic complexity. Weekly labs now feature partner discipline contexts/questions and are placed later to make it less obvious what calculus ideas and tools are needed in the hopes of improving transference. Class time was reimaged as 20-20-20: 20 minutes each on an inquiry-based activity, a "barely-enough" lecture, and practice problems – many with applications. Our findings include a high level of student engagement and persistence in STEM. This material is based upon work supported by the National Science Foundation under NSF award number 1625142. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation. (Received September 17, 2019)