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Girija Sarada Nair-Hart* (nairhaga@ucmail.uc.edu), 4200, Clermont College Drive, Batavia, OH 45103. *Re-Envisioning Calculus Sequence - Example of a Challenge Based Unit*. Preliminary report.

The majority of college calculus students aim at perusing STEM careers. However, they encounter many barriers to success in these courses and some eventually change their major to peruse alternate career paths. These hurdles that students face partly stem from inadequate mathematics preparation and incompatible prior learning styles that do not allow a smoother transition from high school to college. While reconfiguring calculus curriculum is a complex task, individual faculty members can lead the way to the transition by incorporating innovative instructional components. Presenting their steps with its rewards and detriments benefit peer faculty, and the institution in their efforts in equipping students with the 21st-century skills necessary for their success in the real-world setting. Adding the Challenge Based Learning (CBL) component to the calculus course could encourage student persistence due to the supportive culture that CBL establishes to emphasize their success. Besides, the hands-on design experience of CBL provides students with a more fulfilling learning experiences and help create stronger connections with other disciplines. During this talk, I will provide a brief introduction of CBL, then describe a unit on optimization piloted in a university calculus course. (Received August 02, 2019)