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Steve Bennoun* (s.bennoun@cornell.edu) and **Matthew Thomas**. *Putting Students on the Right Track: Predicting Final Grades in Calculus using Early-Semester Data*. Preliminary report.

It is well-known that many students abandon a STEM major because they are not able to complete their calculus requirement. It is therefore important to be able to identify early on which students may be at risk of failing in order to guide them to appropriate support. In this paper we look at how one can predict the final exam grade of students in calculus using two instruments called the Pre-calculus Concept Assessment (PCA) and the Mathematics Attitudes and Perceptions Survey (MAPS). We first look at these two instruments individually and find that for the MAPS, the confidence and persistence sub-scores have the highest correlations with the final exam grade. We then combine the data from these two instruments and build a model for predicting final exam grades. In addition, we also investigate to what extent the PCA, which was developed for pre-calculus, can be used to measure change in pre-calculus concept during a calculus course. Finding no significant difference between pre- and post-scores, we infer that this instrument is not well-suited for this purpose. (Received September 14, 2018)