

1035-A5-1390 **Joe Liddle*** (joseph.liddle@uas.alaska.edu), 609 SMC Rd., Sitka, AK 99835. *Decisions, Decisions, Decisions! Or Decision analysis of avoiding the prerequisite*. Preliminary report.

Prerequisite courses are very important for student success in a developmental math course. Yet wishing to "get done faster", many students decide to skip the prerequisite course. We modeled student success in developmental math courses, with and without the required prerequisite. We found that students with the prerequisite, had odds of success 4.265 times higher than students without the prerequisite. We estimated the probability of success at each outcome node of a decision tree for a student with the end goal of completing intermediate algebra. We found an expected cost function which included tuition as well as the hidden cost of never completing the course at all. We found that the intercept of the cost function for the no prerequisite strategy was less than the intercept for the prerequisite strategy. However the slope for the no prerequisite cost function was much steeper. We conclude that the students perceived only the immediate short term gain of the no prerequisite strategy: "I will get done faster by skipping the prerequisite", but did not perceive the high risk of failure implied by the steeper slope. The optimal decision, with the lowest expected cost, is to take the prerequisite first. (Received September 19, 2007)