Student success is one of the widely discussed topics in post-secondary institutions and is measured in terms of the graduation and retention rates of programs. The goal of an educational institution is to achieve maximum student success and hence, high graduation and retention rates. There are multiple studies on factors affecting student success. One of the factors that contribute to student success is the 'program curriculum.' Unfortunately, the traditional program curricula at many higher education institutions were developed with a belief or assumption that all students possess equal expertise, skills, and follow a similar learning path. The traditional curricular development process neglects some specifics related to the characteristics of transfer and the first time in college students and their time to graduation. The purpose of this research was to explore the relationship between the traditional program curricula and student degree mobility patterns to measure student success of transfer and first-time-in-college students enrolled in Computer Science, Information Technology, and Computer Engineering undergraduate academic programs. Also, how these relationships assist in the development and reform processes of curricula were studied. This study was designed to understand the various aspects of program curricula, such as impacts of a program-specific factor, prerequisite, and post-requisite course requirements on time to graduation. This study leads to the development of Adaptive Curriculum Refinement, a novel approach based on institutional data analytics to assist higher education curriculum designers in the development of data-driven curriculum and curricular reformation purposes. The results of this study suggest a direct relationship between the curricular stringency and student time to graduation, whereas stringency was inversely related to the credit accumulation. The program-specific factor in the curriculum directly affects students' time to graduation. This study is significant because the results and the development of Adaptive Curriculum Refinement could inform higher education policymakers and assist curriculum designers about the need to reform program curricula based on a data-driven and evidence-based approach to improve student success.

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The public is welcome to attend.