

MATH Pathways in the University System of Georgia

In an ever increasing data-centered technologically demanding society it is imperative that students at all levels receive appropriate mathematical training. As students enter higher education and begin to determine their career paths, it becomes increasingly important that the mathematics they learn is differentiated according to those choices. In July of 2013, the USG Task Force on the Role of Mathematics in College Completion stated in its report, "*System institutions should ensure the alignment of pathways for AREA A Mathematics to programs of study so that students learn the mathematical content necessary for success in their majors.*" The purpose of this document is to help inform institutions and departments within institutions of the available gateway paths in mathematics so that informed decisions can be made about major requirements and advisement for their students.

Two Pathways:

A.) MATH 1111 College Algebra

This course is the first step in the pathway to a calculus course. In general, students should not be entered in this pathway unless it is a prerequisite for a major requirement (either in mathematics or elsewhere). This course was designed explicitly to develop the algebra skills needed for success in calculus. Students who will not need these specific skills in a later course are usually better served in the other pathway. The next step in this pathway could be trigonometry, precalculus, or a survey of calculus.

B.) MATH 1001 Quantitative Reasoning *or* MATH 1101 Introduction to Mathematical Modeling

Individual institutions in the USG typically offer only one of these courses. Both courses include the analysis of data-centered problems with the intent of developing appropriate mathematical models and communicating results in a clear and effective fashion. The difference between the two courses is that 1001 places more emphasis on decision making in the context of problem-solving while 1101 places the emphasis on modeling real-world data with elementary functions. Possible next steps in this pathway would include a course in statistics, or further courses in mathematical modeling or decision making.