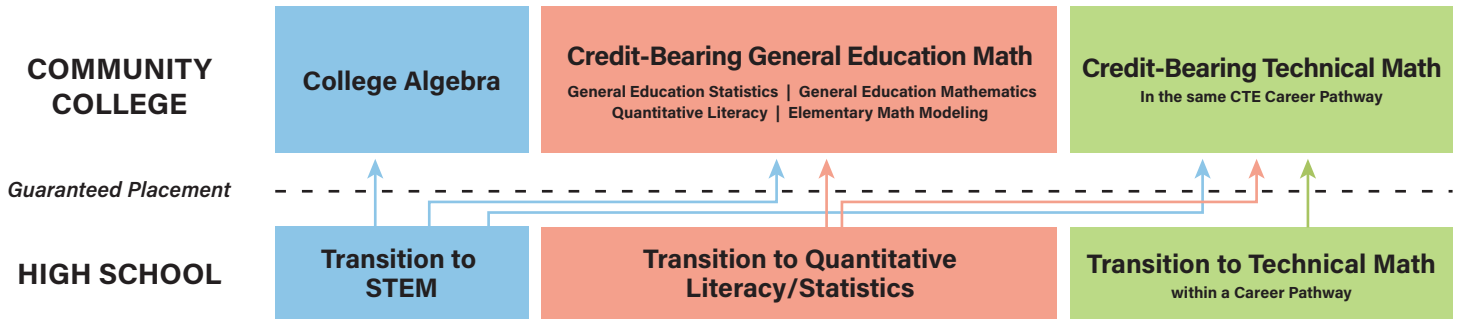


Transitional Math Pathways and Instructional Approach

The PWR Act organizes the State's approach to transitional math into three overarching math pathways, as depicted below:



The emphasis on algebra increases from the technical math pathway to the STEM pathway. Conversely, the amount of contextualization will increase from the STEM pathway to the technical math pathway.

STEM Pathway

The STEM Pathway is for students with career goals involving occupations that require the application of calculus or advanced algebraic skills. In accordance with and subject to the PWR Act, successful attainment of transitional mathematics competencies in the STEM Pathway guarantees student placement into a community college mathematics course in a calculus-based mathematics course sequence. Specifically, this will mean placement into College Algebra.

Quantitative Literacy and Statistics Pathway

The Quantitative Literacy and Statistics Pathway is for students focused on attaining competency in general statistics, data analysis, quantitative literacy, and problem solving. This pathway is intended for students whose career goals do not involve occupations relating to either the College Algebra or Technical Math Pathway or those who have not yet selected a career goal. In accordance with and subject to the PWR Act, successful attainment of transitional mathematics competencies in the Quantitative Literacy and Statistics Pathway guarantees student placement into a community college GECC mathematics course not in a calculus-based course sequence which includes general education statistics, general education mathematics, quantitative literacy, or elementary math modeling.

Technical Math Pathway

The Technical Math Pathway is for students with career goals involving occupations in technical fields that do not require the application of calculus, advanced algebraic, or advanced statistical skills. The mathematics in this pathway emphasizes the application of mathematics within career settings. In accordance with and subject to the PWR Act, successful attainment of transitional mathematics competencies in the Technical Math Pathway guarantees student placement into a credit-bearing postsecondary mathematics course required for a community college career and technical education program.

Instructional Approach

Transitional math courses should enable students to develop conceptual understanding and problem solving competence while increasing college readiness in the path of their choice. The courses emphasize conceptual understanding and modeling rather than procedures and symbolic manipulation. The study of algebra is included in all three pathways; however, its emphasis varies depending on the outcome pathway. Instruction should be contextualized and emphasize authentic applications whenever possible, and instructional strategies integrating mathematics competencies with other academic and career competencies are encouraged for all students. Relevant contexts that apply to the student's life, job, and future college classes should be used, particularly contexts from local business and industry. Depth, not breadth, is essential when addressing the course competencies. However, exposure to a variety of situations, contexts, and concepts is also expected.

The courses focus on developing mathematical maturity and college readiness through problem solving, problem and project-based learning, critical thinking, data analysis, and the writing and communication of mathematics. Students will develop conceptual and procedural tools that support the use of mathematical concepts essential for their pathway in a variety of contexts. The instruction should emphasize the connections between concepts being taught whenever possible. Emphasis should be placed on extended modeling and problem solving with techniques and manipulations covered in context. The appropriate use of technology is strongly encouraged. Some examples include scientific calculators, graphing calculators, spreadsheets, and/or online programs like Desmos.