

Department of Legislative Services  
Maryland General Assembly  
2013 Session

**FISCAL AND POLICY NOTE**

Senate Bill 734 (Senators Currie and Madaleno)  
Education, Health, and Environmental Affairs

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**State Board of Education - Mathematics - Graduation Requirement**

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This bill requires the State Board of Education to establish a high school graduation requirement in mathematics for all students who enter high school in the 2013-2014 school year that requires each high school student to complete a mathematics course in each year of high school and achieve competency in at least Algebra II if enrolled in a college preparation curriculum. If a student achieves competency in Algebra II before the senior year, the student must enroll in a nontrivial mathematics course, including trigonometry, pre-calculus, calculus, statistics, or college algebra.

The bill takes effect July 1, 2013.

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**Fiscal Summary**

**State Effect:** None. The State Board of Education can establish the required high school graduation requirement in mathematics with existing resources.

**Local Effect:** Local school system expenditures may increase minimally beginning in FY 2014 to ensure that all students complete a mathematics course in each year of high school.

**Small Business Effect:** None.

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**Analysis**

**Current Law:** With the advice of the State Superintendent of Schools, the State Board of Education establishes basic policy and guidelines for the program of instruction for public schools. Subject to State law and the bylaws, policies, and guidelines established

by the State Board of Education, each local board of education must establish the curriculum guides and courses of study for schools in its jurisdiction. Policies, rules, and regulations for the graduation of students from Maryland public schools are established by local boards of education and the State Board of Education.

To receive a Maryland diploma, a student must complete three credits of math, including one credit of algebra/data analysis and one credit of geometry. Local school systems may set stricter requirements.

**Background:** A study that examined students' transcripts identified a five-rung math ladder consisting of – from highest to lowest – calculus, pre-calculus, trigonometry, Algebra II, and less than Algebra II. The study noted that, “For each rung of High Math climbed, the odds of completing a bachelor’s degree increased by a factor of 2.59 to 1. Finishing a course beyond the level of Algebra II more than doubles the odds that a student who enters postsecondary education will complete a bachelor’s degree.” Another study found that students who took Algebra II or a higher-level math course were more likely than all ACT test-takers to enroll in college the following fall and return to college for their second year. However, these studies do not show that taking rigorous mathematics courses in high school causes students to be successful, merely that these behaviors are correlated.

Beginning with students entering grade 9 in the 2011-2012 school year, among the minimum qualifications for admission, the University System of Maryland institutions are requiring students to take four years of mathematics in high school that must include Algebra II. Students who complete Algebra II before their senior year must take a nontrivial math course.

Maryland is in the midst of implementing the Common Core State Standards (CCSS), a state-led effort to establish a shared set of clear educational standards that states can voluntarily adopt. The CCSS for mathematical content specifies that all students should study for college and career readiness. These standards do not mandate the sequence of high school courses, but they allow for a traditional sequence of high school mathematics that includes Algebra I, geometry, Algebra II, and beyond.

The Partnership for Assessment of Readiness for College and Careers (PARCC) has partnered with 23 states (including Maryland) and the District of Columbia to develop an assessment system aligned to the CCSS that is anchored in college and career readiness; provides comparability across states; has the ability to assess and measure higher-order skills such as critical thinking, communications, and problem solving; and provides truly useful information for educators, parents, and students alike.

Maryland will begin administering the PARCC assessments in both English language arts/literacy and mathematics in the 2014-2015 school year. The mathematics PARCC assessment will include items on Algebra II content as well as earlier content areas to ensure that students have retained critical content information.

**Local Expenditures:** Local school system expenditures may increase minimally to ensure that all students complete a mathematics course in each year of high school. Currently to receive a Maryland high school diploma, students must complete three credits of mathematics, which translates to three years of mathematics. At least 11 local school systems require additional credits of math to graduate, and many students currently complete four years of mathematics. Thus, local expenditures to meet this requirement are assumed to be minimal.

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### **Additional Information**

**Prior Introductions:** None.

**Cross File:** HB 1376 (Delegates Griffith and Bohanan) - Rules and Executive Nominations.

**Information Source(s):** Maryland State Department of Education, University System of Maryland, Partnership for Assessment of Readiness for College and Careers, Center for Public Education, Department of Legislative Services

**Fiscal Note History:** First Reader - February 27, 2013  
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