

**Department of Legislative Services**  
 Maryland General Assembly  
 2024 Session

**FISCAL AND POLICY NOTE**  
**First Reader**

Senate Bill 980 (Senator Hester)  
 Education, Energy, and the Environment

**Education - Computer Science - Content Standards and Requirements**

This bill requires, by June 1, 2025, and every three years thereafter, the State Board of Education (SBE) to update the computer science content standards and framework to align with recent advancements including artificial intelligence (AI) and cybersecurity. Beginning in the 2027-2028 school year, each public elementary and middle school must offer developmentally appropriate and aligned computer science instruction, as specified. Finally, the bill requires each public high school to promote and increase the enrollment of underrepresented groups in computer science to reflect the school’s demographics, to the extent practicable. **The bill takes effect July 1, 2024.**

**Fiscal Summary**

**State Effect:** General fund expenditures increase by \$101,400 in FY 2025 for staffing. Out-year expenditures reflect annualization and inflation. Revenues are not affected.

(in dollars)	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Revenues	\$0	\$0	\$0	\$0	\$0
GF Expenditure	101,400	122,900	128,400	134,000	139,900
Net Effect	(\$101,400)	(\$122,900)	(\$128,400)	(\$134,000)	(\$139,900)

*Note: ( ) = decrease; GF = general funds; FF = federal funds; SF = special funds; - = indeterminate increase; (-) = indeterminate decrease*

**Local Effect:** Local school system expenditures may increase, potentially significantly, to offer computer instruction as specified in each elementary and middle school and potentially due to updating the high school curriculum. Local school system revenues are not affected. **This bill may impose a mandate on a unit of local government.**

**Small Business Effect:** None.

## Analysis

**Bill Summary:** The instruction in computer science in elementary and middle schools must be aligned to the [State Content Standards for Computer Science instruction](#) for grades 9 through 12 to (1) increase enrollment in high school computer science courses and (2) provide appropriate preparation and support to students interested in participating in computer science-related courses in a post College and Career Readiness pathway.

The bill also repeals the *requirement* for each local board to increase the enrollment in middle and high school computer science courses of specified underrepresented groups of students.

**Current Law:** Each public *high* school must offer at least one computer science course. The computer science course must be of high quality and meet or exceed the curriculum standards and requirements established by SBE. Each local board of education must make efforts to (1) incorporate computer science in each public elementary and middle school and (2) increase enrollment of specified individuals in middle and high school computer science courses; the latter two requirements are repealed by the bill.

Beginning with students entering grade 9 in the 2021-2022 school year, to be awarded a diploma, a student must earn a minimum of 22 credits, including 1 credit in computer science, engineering, or technology education that includes the study of computers and algorithmic processes or the application of knowledge, tools, and skills to solve practical problems and extend human capabilities.

**State Expenditures:** Five and a half years ago, formed a design team, including computer science teachers, postsecondary partners, and industry experts, to create grade-specific standards based on national standards from the Computer Science Teachers Association (CSTA). CSTA endorsed the Maryland State Department of Education's (MSDE) standards, which included concepts such as cybersecurity; however, under the bill MSDE must update the standards and framework by July 1, 2025, to cover emerging technologies such as AI.

MSDE advises that it currently collaborates with the [Maryland Center for Computing Education](#) (MCCE), which provides limited support for kindergarten through grade 8 computer science curriculum; however, to expand these initiatives MSDE requires a full-time Computer Science Coordinator with subject matter expertise.

Accordingly, general fund expenditures increase by \$101,437 in fiscal 2025, which assumes a 90-day start-up delay from the bill's July 1, 2024 effective date. This estimate reflects the cost of hiring one full-time staff member to research recent advances in computer science (such as AI and cybersecurity), assisting SBE in updating the computer

science content standards and framework every three years, and partnering with MCCE and local school systems to update professional learning toolkits that support teachers' implementation of the standards. It includes a salary, fringe benefits, one-time start-up costs, and ongoing operating expenses.

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Salary and Fringe Benefits	\$94,181
Operating Expenses	<u>7,256</u>
<b>Total FY 2025 State Expenditures</b>	<b>\$101,437</b>

Future year expenditures reflect a full salary with annual increases and employee turnover and ongoing operating expenses.

**Local Expenditures:** Local school system expenditures may increase, potentially significantly, to offer computer instruction as specified in every elementary and middle school and potentially due to updating the high school instruction. Potential costs include additional teachers, professional development, curriculum development and materials, and computers and other instructional materials. Overall costs depend on the standards developed by SBE and existing computer science offerings in each local school system and, therefore, cannot be reliably estimated. The following are examples of the bill's possible effects on local school systems.

Anne Arundel County Public Schools (AACPS) already has integrated computer science content across all grade levels. However, to facilitate these changes and provide necessary professional development, AACPS estimates the annual cost of at least \$100,000 to hire a specialist, along with teacher stipends totaling \$26,900 per year for professional development. Baltimore City Public Schools (BCPS) currently offers computer science in all high schools as required by law, but adjustments to content standards may require procurement of new curriculum at an unknown cost. Moreover, beginning with the 2027-2028 school year, BCPS may need to hire additional staff to expand computer science instruction in its 119 elementary schools, which could cost up to \$9.5 million annually. Prince George's County Public Schools anticipates initial costs of \$10.8 million, followed by annual expenses of \$5.3 million, covering additional equipment, professional development, software licensing, program coordinators, teacher stipends, and travel. In contrast, St. Mary's County Public Schools expects no fiscal impact, having already implemented a comprehensive computer science program aligned with current State standards, spanning elementary through high school levels.

## **Additional Information**

**Recent Prior Introductions:** Similar legislation has not been introduced within the last three years.

**Designated Cross File:** None.

**Information Source(s):** Maryland State Department of Education; Baltimore City Public Schools; Anne Arundel County Public Schools; Prince George’s County Public Schools; St. Mary’s County Public Schools; Department of Legislative Services

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