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**TO:** Senate Education, Energy, and the Environment Committee

**BILL:** Senate Bill (SB) 980 – Education – Computer Science – Content Standards and Requirements

**DATE:** March 6, 2024

**POSITION:** Oppose

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The Maryland State Board of Education (State Board) and the Maryland State Department of Education (MSDE) respectfully oppose Senate Bill (SB) 980 - Education – Computer Science – Content Standards and Requirements, which requires the State Board of Education to update computer science content standards with information on artificial intelligence and cybersecurity as well as requires county boards of education to provide computer science instruction in public elementary and middle schools.

We do not oppose the bill based on the merits of the proposed subject matter but on the grounds that the legislative requirement would run counter to the process that is entrusted to the State Board, MSDE, and LEAs. Separate processes and timelines for the review and approval of standards, frameworks, and curricular resources could be counterproductive to both MSDE and to local education agencies. Additionally, SB 980 would allow for a short timeline for LEAs to complete the required curricular resource development, training, and procurement of new materials.

Annually, the Computer Science Teachers Association, in partnership with Code Advocacy Coalition and Expanding Computing Education Pathways, releases a report titled, "[2023 State of Computer Science Education](#)" that provides an update on national and state-level computer science education policy, including policy trends, maps, state summaries, and implementation data. The report assesses states based on 10 policies to make computer science foundational in public schools:

1. Create a statewide plan for K–12 computer science,
2. Define computer science and establish standards for K–12 computer science,
3. Allocate funding for rigorous computer science teacher professional learning,
4. Implement clear certification pathways for computer science teachers at elementary and secondary levels,
5. Create university programs to encourage all preservice teachers to gain exposure to computer science,
6. Establish dedicated computer science positions in a state education agency,
7. Require that all schools offer computer science with appropriate implementation timelines,
8. Allow computer science to count toward a core graduation requirement,
9. Allow computer science to satisfy an admission requirement at higher education institutions, and
10. Require that all students take computer science to earn a high school diploma.

According to the report, 99% of Maryland high schools offer computer science courses. This exceeds the national average by 41.5%. Furthermore, the Maryland State Board of Education adopted a regulation requiring students to earn one credit in computer science, engineering, or technology education to meet their graduation requirements.

MSDE has made great progress in the statewide implementation of computer science in public schools through collaborative partnerships with the Maryland Center for Computing Education (MCCE), Code in the Schools, and the MCCE Advisory Committee. Working in tandem with these organizations, computer science is expanding at all levels of education:

### **Elementary School Computer Science and Computational Thinking**

At the elementary level, an Elementary Computer Science Ambassadors program was established. Over 75 elementary educators from across the state have received extensive professional development in computer science and computational thinking. Their roles vary, but in general, they implement these topics in their classrooms, mentor and support other interested teachers, and work on other projects with the partnership.

### **Middle School Computer Science and Computational Thinking**

At the middle school level in Maryland, there is a requirement in the Every Student Succeeds Act (ESSA) for computational thinking. Currently, most students meet the requirement through computer science or technology education courses.

### **High School Computer Science and Career and Technical Education**

Many of the computer science courses at the high school level are incorporated into Career and Technical Education (CTE) programs of study. The CTE programs prepare students for high-wage, high-skill, high-demand STEM jobs after high school, by providing technical training and/or preparing students to go on to higher education. Computer science courses are also offered as electives and/or courses that allow students to meet the Computer Science, Engineering, or Technology Education requirement or the mathematics requirement. Currently, under the *Securing the Future: Computer Science for All* Maryland law, cited above, each public high school must offer at least one high quality computer science course. The local school systems have all met this requirement as of the 2021-2022 school year.

### **Teachers and Computer Science Certification**

An ongoing issue for many STEM subjects is the availability of teachers, and this issue is especially problematic for computer science education. It is hard to convince those who can make substantially more money working in industry to work in education. Thus, there is a constant shortage of computer science teachers at the elementary, middle, and high school levels. While local education agencies will continue to pursue their teacher recruitment efforts, a necessary component of the partnership is to provide professional learning to current Maryland educators to either teach stand-alone computer science courses or integrate computer science and computational thinking into other content areas.

### **Standards and Frameworks Review Committee (SFRC)**

MSDE, in partnership with teachers, supervisors, parents, institutes of higher education, and other stakeholders will continue to undertake significant reviews of state standards and frameworks.

To be included in this process is the MSDE proposed “Standards and Frameworks Review Committee” (SFRC), which will address the concerns of SB 980 by enhancing the process’s mechanism for responding to emergent standards, framework, and curricular resource needs. The SFRC shall be comprised of no more than ten educators (such as teachers, administrators, and/or content supervisors), two parents of Maryland Public School students, two community members (such as University scholars and/or associated content experts) as well as a chairperson selected by MSDE. All members of the SFRC shall undergo a rigorous application and selection process along with training in MSDE protocol. The objective and scope of the SFRC shall be to improve student outcomes by ensuring the alignment of standards and frameworks to emergent needs as identified by MSDE. As we move forward with this process, MSDE will be certain to include our critical partners in the General Assembly.

The Department and the State Board respectfully request that the committee consider this information on **SB 980**. Please contact Dr. Akilah Alleyne, Executive Director of Government Affairs, Education Policy, and Government Relations, at [Akilah.alleyne@maryland.gov](mailto:Akilah.alleyne@maryland.gov) or at 410-767-0504 or Zach Hands, Executive Director of the State Board, at [Zachary.hands1@maryland.gov](mailto:Zachary.hands1@maryland.gov) or at 443-915-6094, if you would like any additional information.