

May 15, 2023

Chairman Dolan, Vice Chair Cirino, Ranking Sykes and members of the Senate Finance Committee,

Thank you for the time to share proponent testimony on House Bill 33 in support of the computer science budget language and funding.

I want to start by expressing my gratitude to the 134th General Assembly for their foresight in creating a state plan for Computer Science (CS) education as a part of the last biennium budget. As the facilitator of the state committee to create that plan, I had the privilege of working with 26 members from across industry, higher education, K-12 educators, government agencies, and non-profit organizations. We met regularly for almost a year to put together the state plan released in the fall of 2022.

I also have the honor of working as the director of the Ohio STEM Learning Network – a public private partnership between Battelle and the state of Ohio. Battelle, based right here in Columbus, Ohio, is the world's largest, independent, non-profit research and development organization.

Today, in Battelle's labs, our scientists are perfecting ways to safely destroy the "PFAS" or "forever chemicals" found more and more in Ohio's waterways. Battelle engineers are developing carbon capture methods to pull carbon dioxide from the air and store it deep underground.

Battelle conducts science and creates technologies across many fields including Health, National Security, Environment, Agriculture and Energy. Computational thinking is a critical skill for employees who work in each of these fields. We are currently in need of reverse engineers to solve the toughest Computer Science problems in the world. We need data scientists to lead model development to further our understanding of adverse events. We need software engineers to design, develop, document, test, and debug new and existing software systems. This list of currently open positions continues but they all share a common need. A need for a computationally educated workforce.

One of the key figures that stands out to me from the CS committee's work comes from JobsOhio: Ohio employer demand for CS talent is nearly 4.8 times the current supply in Ohio. JobsOhio estimates this gap will widen by approximately 11,000 jobs each year over the next decade.

It is with this workforce need in mind that I urge you to include amendment SC1252 in the Senate's version of the budget. This amendment provides \$24 million over the biennium to support computer science. Specifically:

- \$4 million per fiscal year for Teach CS grants to upskill teachers and provide professional development. This is targeted to underserved schools without computer science.
- \$4 million per fiscal year for the Computer Science Promise, giving students the opportunity to take a computer science course if their school does not offer one.
- \$4 million per fiscal year for the Ohio Computer Science Council to provide after school programming and enrichment outside of the classroom.

A public-private partnership of:



According to the [2022 State of Computer Science](#) report for Ohio, in the 2020-2021 school year, only 48% of Ohio high schools offered a foundational Computer Science course. When we look at that number broken down by geography, we see that 57% of our suburban schools and 55% of our rural schools offer a foundational computer science course. Not great. Yet the picture is even more alarming when we see that only 22% of our schools in urban regions are offering a foundational computer science course.

The lack of Computer Science education is an issue of national security. If we wish to remain a leader across the globe in science and technology, we must teach our students computer science. If we wish to protect our communities, industries, and governments from cybersecurity threats, we must teach our students computer science. Globally, CS courses are mandatory for students in 44 countries, including the United Kingdom, Ireland, China, Russia, Australia, Sweden, Finland, Italy and Japan.

Here in Ohio, there is a clear shortage of qualified Computer Science teachers. This workforce bottleneck makes it even more difficult for our schools to offer computer science. Our education system must catch up.

The Teach Computer Science Grants will upskill current teachers and provide professional development so that they may teach these critical skills. Funding these grants directly to practitioners will get more teachers in the field teaching computer science and will prioritize school districts that are underserved or do not currently have a computer science course.

Funding alone does not solve the problem. We are also asking for an amendment to extend the waiver on CS licensure until 2025, allowing teachers who hold a teaching license to teach Computer Science if the school determines they have appropriate content knowledge. This will allow teachers to start and continue teaching Computer Science (with appropriate professional learning) while Ohio creates new Computer Science teacher licensure bands.

While we work to upskill teachers in schools across Ohio, funding the Computer Science Promise gives students the opportunity to take computer sciences courses if their school district does not offer them. The Computer Science Promise ensures that the course is available at no cost to the student. The funding will help schools cover the costs of outside computer science courses.

Finally, funding the Computer Science Council will support computer science in afterschool programs, summer camps, and educational enrichment partnerships.

Putting these recommendations from the state plan into action is a huge step forward to ensuring Ohio is prepared to meet the needs of our future workforce and keep our assets safe.

Thank you for your time and support of Computer Science education and please feel free to reach out to me with any questions you might have.

Sincerely,


Kelly Gaier Evans

Director, Ohio STEM Learning Network