

Maryland Center for Computing Education Implementation Plan

In accordance with the Act: *Securing the Future: Computer Science Education for All*, which took effect on July 1, 2018, the Maryland Center for Computing Education (MCCE) Implementation Plan has been finalized and published here on the MCCE website.

§4-111.4 Education Article, Annotated Code of Maryland
Beginning in the 2021–2022 school year, each county board shall require each public high school in the county to offer at least one computer science course.

The MCCE Advisory Committee has defined high school as a diploma granting Maryland public high school.

The MCCE Steering Committee meets twice a year to offer guidance on the priorities for professional development, curriculum, alignment to industry and post-secondary programs, and areas of interest to local school systems (LSSs) across the state.

The MCCE works directly with each LSS to develop a local vision for computer science education, evaluate current programs, identify gaps, and create specific and measurable short and long term goals that align with grant funding requests to support the LSS plan.

The computer science course shall be of high quality and meet or exceed the curriculum standards and requirements established by the State Board.

The MCCE Advisory Committee has formed a working group to make recommendations on what qualifies as a high quality computer science high school course which meets or exceeds the Maryland's K-12 Computer Science Standards. The standards were approved by the State Board of Education on September 25, 2018. Once this is defined and approved by the MCCE Advisory Committee, it will be posted here.

The MCCE is funding a position at the Maryland State Department of Education (MSDE) starting in August, 2019 for a Computer Science specialist who will collaborate MCCE; collect and use information to make data-driven decisions; and develop the CS frameworks aligned to the Maryland's K-12 Computer Science Standards

The county board shall make efforts to:

- 1. Incorporate instruction in computer science in each public elementary and middle school in the county and;*
- 2. Increase the enrollment in middle and high school computer science courses of:*
 - I. Female*
 - II. Students with disabilities*
 - III. Students of ethnic, racial, and other demographic groups that are*

underrepresented in the field of computer science as identified by the U.S. Equal Employment Opportunity Commission.

MCCE is working with each LSS to increase the number of teachers who are trained to teach computational thinking and computer science at the elementary, middle, and high school levels by offering ongoing professional development at the local, regional and state-wide levels. MCCE has also invited teachers from the Maryland School for the Blind and the Maryland School for the Deaf to participate in professional development. High school and college student enrollment will be monitored for each student subgroup in partnership with the Maryland Longitudinal Data System Center (MLDSC). The data will be publicly displayed online.

MCCE is collaborating with the National Center for Women in Technology to provide professional development to professional school counselors. Professional school counselors who assist high school students with their high school course selection and preparation for post-secondary education are essential stakeholders to assist in the broadening participation in computing efforts.

§12-118 Education Article, Annotated Code of Maryland

(1) There is a Maryland Center for Computing Education in the University System of Maryland.

(2) The purpose of the Center is to expand access to high-quality computer science education in grades prekindergarten through 12 by strengthening the skills of educators and increasing the number of computer science teachers in elementary and secondary education.

(3) In carrying out the powers and duties granted under this section, the Center shall work in consultation and collaboration with institutions of higher education in the State, including:

(I) Historically black colleges and universities;

(II) Other public senior higher education institutions;

(III) Independent institutions of higher education; and

(IV) Community colleges.

MCCE has two stakeholder groups. The larger Steering Committee which began meeting 5 years ago has representation from government, K-12 LSSs including classroom teachers and administrators, non-profits, industry, community college, and public, private, and historically black four-year universities and colleges. The MCCE Advisory Committee is co-chaired Dr. Nancy Shapiro, Associate Vice Chancellor for Education and Outreach Special Assistant to the Chancellor for P-20 Education at the University System of Maryland and Dr. Carol Williamson, Chief Academic Officer, Deputy State Superintendent, Office of Teaching and Learning at MSDE.

The Plan shall identify:

(I) Specific actions, resources, metrics, and benchmarks to create a long-term sustainable pipeline of computer science teachers; and

(II) Activities to obtain and sustain public and private partnerships for funding, mentoring, and internships for teachers.

The MCCE Steering Committee created [15-year goals with embedded metrics](#) to build

and sustain the CS teacher pipeline. The progress towards these goals will be reported in each annual report. Likewise, the partnerships and additional funding will also be reported annually.

(1) The Center shall provide professional development and programs to broaden and sustain the pool of teachers needed to achieve the requirements of § 4-111.4 of this article.

(2) In providing professional development to computer science teachers, the Center shall:

(I) Maintain a clearinghouse with computer science education curricula and resources to support professional development in computer science education;

(II) Communicate and promote the Center's activities to maintain transparency about upcoming opportunities and available resources; and

(III) 1. Publish an annual report on the Center's website on the Center's progress in implementing the Plan described in subsection (c) of this section; and

2. Provide a copy of the annual report to the Governor, the University System of Maryland, the State Department of Education, and, in accordance with § 2-1246 of the State Government Article, the General Assembly.

The MCCE website at cs4md.com will provide direct access to CS curricula and resources as well as ongoing professional development opportunities and events. MCCE will work closely with all of the stakeholders to ensure that a robust network of Maryland CS educators P-20 is maintained. The annual report will be submitted each year on July 1st.

(3) (I) The Center shall administer a grant program to support professional development in computer science education.

(II) The grant program shall:

1. Be administered through an open and competitive process;

2. Prioritize applications from county boards of education and institutions of higher education ; and

3. Prioritize applications that focus on serving:

A. Areas with high poverty;

B. Rural areas; or

C. Areas with large minority or diverse student populations including female students, students with disabilities, and students of ethnic, racial, or other demographic groups that are underrepresented in the field of computer science as identified by the U.S. Equal Employment Opportunity Commission.

The MCCE will administer two grant programs. The first will provide a series of grants to LSSs in order for each of the 25 Maryland public LSSs to reach compliance with this law. The second grant process will provide pilot research for institutions of higher education (IHE) to update pre-service teacher education programs to include computer science.

- E) (1) There is a Computing Education and Professional Development Fund.*
- (2) The purpose of the Fund is to support the activities of the Center and provide grants under this section.*
- (3) The Center shall administer the Fund.*
- (4) (I) The Fund is a special, nonlapsing fund that is not subject to § 7-302 of the State Finance and Procurement Article.*
- (II) Any unspent portions of the Fund may not be transferred or revert to the General Fund of the State, but shall remain in the Fund to be used for the purposes specified in this section.*
- (III) The State Treasurer shall hold the Fund separately, and the Comptroller shall account for the Fund.*
- (5) The Fund consists of:*
- (I) Money appropriated in the State budget to the Fund;*
- (II) Interest earnings of the Fund; and*
- (III) Any other money from any other source, including donations, accepted for the benefit of the Fund.*
- (6) The Fund may be used only for:*
- (I) Any activity or program that furthers the purposes listed in subsection (b) of this section;*
- (II) Grants made by the Center; and*
- (III) Administrative expenses of the Center.*
- (7)*
- (I) The State Treasurer shall invest the money of the Fund in the same manner as other State money may be invested.*
- (II) Any interest earnings of the Fund shall be credited to the Fund.*
- (8) Expenditures from the Fund may be made only in accordance with the State budget.*
- (9) The Governor shall appropriate at least the following amounts to the Fund:*
- (I) \$1,000,000 for fiscal year 2020; and*
- (II) \$1,000,000 for fiscal year 2021.*
- (10) The Center shall, when economically beneficial, leverage State resources and systems to effectively and efficiently execute the requirements of this section.*

Article - State Finance and Procurement

Md. Code, ED §12-118

6-226.

(a) (2) (i) Notwithstanding any other provision of law, and unless inconsistent with a federal law, grant agreement, or other federal requirement or with the terms of a gift or settlement agreement, net interest on all State money allocated by the State Treasurer under this section to special funds or accounts, and otherwise entitled to receive interest earnings, as accounted for by the Comptroller, shall accrue to the General Fund of the State.

(ii) The provisions of subparagraph (i) of this paragraph do not apply

101. the Advance Directive Program Fund; [and]

102. the Make Office Vacancies Extinct Matching Fund; AND

103. The Computing Education and Professional Development Fund

The MCCE budget will be published in each annual report.