

HOUSE BILL 281

F1, F5

8lr0856

By: Delegates A. Miller, Dumais, Fennell, Fraser-Hidalgo, Gibson, Hill, Jalisi, Korman, Krimm, Lam, J. Lewis, Lierman, McCray, McIntosh, Moon, Rose, Rosenberg, Saab, Sample-Hughes, Sophocleus, Tarlau, Valderrama, and M. Washington

Introduced and read first time: January 19, 2018

Assigned to: Ways and Means

Committee Report: Favorable with amendments

House action: Adopted

Read second time: February 27, 2018

CHAPTER _____

1 AN ACT concerning

2 **Education – Computer Science – Curriculum and Professional Development**
3 **(Securing the Future: Computer Science Education for All)**

4 FOR the purpose of requiring county boards of education to require public high schools to
5 offer a certain computer science course beginning in a certain school year; requiring
6 the county board to make efforts to incorporate computer science instruction in
7 elementary and middle schools and make efforts to increase enrollment in computer
8 science courses of certain students; establishing the Maryland Center for Computing
9 Education; providing for the purpose of the Center; requiring the Center, in carrying
10 out its powers and duties, to work in consultation and collaboration with certain
11 institutions of higher education; requiring the Center to develop a certain plan to be
12 finalized and published on or before a certain date on a certain website; requiring
13 the Center to provide certain professional development and programs; requiring the
14 Center to maintain a certain clearinghouse and to communicate and promote certain
15 activities; requiring the Center to publish an annual report on the Center's website
16 and to report annually to certain individuals and entities; requiring the Center to
17 administer a certain grant program; providing for the administration of the grant
18 program; establishing the Computing Education and Professional Development
19 Fund; providing for the uses, purposes, sources of funding, and investment of money
20 in the Fund; requiring the Center to administer the Fund; providing that the Fund
21 is a special, nonlapsing fund not subject to certain provisions of law; requiring
22 interest earnings of the Fund to be credited to the Fund; requiring the Governor to

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.

[Brackets] indicate matter deleted from existing law.

Underlining indicates amendments to bill.

~~Strike out~~ indicates matter stricken from the bill by amendment or deleted from the law by amendment.



1 appropriate a certain amount of funding to the Fund in certain fiscal years; requiring
2 the Center to leverage certain resources in a certain manner under certain
3 circumstances; exempting the Fund from a certain provision of law requiring interest
4 on State money in special funds to accrue to the General Fund of the State; defining
5 certain terms; and generally relating to computer science education.

6 BY adding to

7 Article – Education

8 Section 4–111.4 and 12–118

9 Annotated Code of Maryland

10 (2014 Replacement Volume and 2017 Supplement)

11 BY repealing and reenacting, without amendments,

12 Article – State Finance and Procurement

13 Section 6–226(a)(2)(i)

14 Annotated Code of Maryland

15 (2015 Replacement Volume and 2017 Supplement)

16 BY repealing and reenacting, with amendments,

17 Article – State Finance and Procurement

18 Section 6–226(a)(2)(ii)101. and 102.

19 Annotated Code of Maryland

20 (2015 Replacement Volume and 2017 Supplement)

21 BY adding to

22 Article – State Finance and Procurement

23 Section 6–226(a)(2)(ii)103.

24 Annotated Code of Maryland

25 (2015 Replacement Volume and 2017 Supplement)

26 ~~Preamble~~

27 ~~WHEREAS, Computer occupations are the number one source of new wages in the~~
28 ~~United States; however, thousands of computing jobs in Maryland remain unfilled,~~
29 ~~representing nearly \$1.9 billion in unearned wages; and~~

30 ~~WHEREAS, Computer science will drive innovation and create future economic~~
31 ~~growth for the State, meeting the needs of our academic institutions and businesses across~~
32 ~~all industries from agriculture to biotechnology; and~~

33 ~~WHEREAS, Computer science is the gateway to future learning in the digital age~~
34 ~~and represents an essential form of literacy that teaches our children a systematic way to~~
35 ~~understand complex processes, solve problems, and work in teams; and~~

36 ~~WHEREAS, Providing access to high quality computer science courses that meet~~
37 ~~rigorous standards beginning in the earliest grades possible and increasing access to~~

~~high quality computer science training programs for educators will ensure that all students master the computer science skills they need to enter well-paying careers; and~~

~~WHEREAS, Access to computer science education is not available equitably, resulting in a lack of gender, ethnic, and geographic diversity in computer science fields and related opportunities; and~~

~~WHEREAS, To ensure students have equitable access to technology and computer science education, educators must also have equitable access to opportunities to obtain postsecondary training in computer science, which includes computer science degrees, industry recognized certificates, and other training that will enable educators to teach high quality computer science courses in public schools; now, therefore,~~

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND,
That the Laws of Maryland read as follows:

Article – Education

4-111.4.

~~(A) IN THIS SECTION, “COMPUTER SCIENCE” MEANS THE STUDY OF COMPUTERS AND ALGORITHMIC PROCESSES, INCLUDING THEIR PRINCIPLES, HARDWARE AND SOFTWARE DESIGNS, IMPLEMENTATION, AND IMPACT ON SOCIETY.~~

~~(B) (1) 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.~~

~~(2) (B) THE COMPUTER SCIENCE COURSE SHALL BE OF HIGH QUALITY AND MEET OR EXCEED THE CURRICULUM STANDARDS AND REQUIREMENTS ESTABLISHED BY THE STATE BOARD.~~

~~(3) (C) 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:~~

~~(1) FEMALE STUDENTS;~~

~~(2) STUDENTS WITH DISABILITIES; AND~~

~~3~~ (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.

12-118.

(A) (1) IN THIS SECTION THE FOLLOWING WORDS HAVE THE MEANINGS
 INDICATED.

(2) "CENTER" MEANS THE MARYLAND CENTER FOR COMPUTING
 EDUCATION.

~~(3) "COMPUTER SCIENCE" HAS THE MEANING STATED IN § 4-111.4 OF
 THIS ARTICLE.~~

~~(4)~~ (3) "FUND" MEANS THE COMPUTING EDUCATION AND
 PROFESSIONAL DEVELOPMENT FUND.

~~(5)~~ (4) "PLAN" MEANS THE MARYLAND STATE COMPUTER
 SCIENCE EDUCATION IMPLEMENTATION PLAN.

(B) (1) ~~THERE IS A MARYLAND CENTER FOR COMPUTING EDUCATION AT
 THE UNIVERSITY OF MARYLAND, BALTIMORE COUNTY THAT IS JOINTLY OPERATED
 BY THE UNIVERSITY OF MARYLAND, BALTIMORE COUNTY AND THE UNIVERSITY OF
 MARYLAND, COLLEGE PARK CAMPUS 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.

1 **(C) (1) THE CENTER SHALL DEVELOP A MARYLAND STATE COMPUTER**
2 **SCIENCE EDUCATION IMPLEMENTATION PLAN.**

3 **(2) IN DEVELOPING THE PLAN, THE CENTER SHALL PLACE PRIORITY**
4 **ON REACHING SCHOOL DISTRICTS WITH HIGH POVERTY AND LARGE RURAL AREAS**
5 **AND STUDENT POPULATIONS THAT ARE UNDERREPRESENTED IN COMPUTER**
6 **SCIENCE FIELDS.**

7 **(3) THE PLAN SHALL IDENTIFY:**

8 **(I) SPECIFIC ACTIONS, RESOURCES, METRICS, AND**
9 **BENCHMARKS TO CREATE A LONG-TERM SUSTAINABLE PIPELINE OF COMPUTER**
10 **SCIENCE TEACHERS; AND**

11 **(II) ACTIVITIES TO OBTAIN AND SUSTAIN PUBLIC AND PRIVATE**
12 **PARTNERSHIPS FOR FUNDING, MENTORING, AND INTERNSHIPS FOR TEACHERS.**

13 **(4) ON OR BEFORE JULY 1, 2019, THE CENTER SHALL FINALIZE AND**
14 **PUBLISH THE PLAN ON ITS WEBSITE.**

15 **(D) (1) THE CENTER SHALL PROVIDE PROFESSIONAL DEVELOPMENT**
16 **AND PROGRAMS TO BROADEN AND SUSTAIN THE POOL OF TEACHERS NEEDED TO**
17 **ACHIEVE THE REQUIREMENTS OF § 4-111.4 OF THIS ARTICLE.**

18 **(2) IN PROVIDING PROFESSIONAL DEVELOPMENT TO COMPUTER**
19 **SCIENCE TEACHERS, THE CENTER SHALL:**

20 **(I) MAINTAIN A CLEARINGHOUSE WITH COMPUTER SCIENCE**
21 **EDUCATION CURRICULA AND RESOURCES TO SUPPORT PROFESSIONAL**
22 **DEVELOPMENT IN COMPUTER SCIENCE EDUCATION;**

23 **(II) COMMUNICATE AND PROMOTE THE CENTER'S ACTIVITIES**
24 **TO MAINTAIN TRANSPARENCY ABOUT UPCOMING OPPORTUNITIES AND AVAILABLE**
25 **RESOURCES; AND**

26 **(III) 1. PUBLISH AN ANNUAL REPORT ON THE CENTER'S**
27 **WEBSITE ON THE CENTER'S PROGRESS IN IMPLEMENTING THE PLAN DESCRIBED IN**
28 **SUBSECTION (C) OF THIS SECTION; AND**

29 **2. PROVIDE A COPY OF THE ANNUAL REPORT TO THE**
30 **GOVERNOR, THE UNIVERSITY SYSTEM OF MARYLAND, THE STATE DEPARTMENT OF**
31 **EDUCATION, AND, IN ACCORDANCE WITH § 2-1246 OF THE STATE GOVERNMENT**
32 **ARTICLE, THE GENERAL ASSEMBLY.**

1 **(3) (I) THE CENTER SHALL ADMINISTER A GRANT PROGRAM TO**
2 **SUPPORT PROFESSIONAL DEVELOPMENT IN COMPUTER SCIENCE EDUCATION.**

3 **(II) THE GRANT PROGRAM SHALL:**

4 1. **BE ADMINISTERED THROUGH AN OPEN AND**
5 **COMPETITIVE PROCESS;**

6 2. **PRIORITIZE APPLICATIONS FROM COUNTY BOARDS**
7 **OF EDUCATION, AND INSTITUTIONS OF HIGHER EDUCATION, ~~NONPROFIT~~**
8 **~~ORGANIZATIONS, AND OTHER ENTITIES IDENTIFIED IN THE PLAN; AND~~**

9 3. **PRIORITIZE APPLICATIONS THAT FOCUS ON SERVING:**

10 A. **AREAS WITH HIGH POVERTY;**

11 B. **RURAL AREAS; OR**

12 C. **AREAS WITH LARGE MINORITY OR DIVERSE STUDENT**
13 **POPULATIONS INCLUDING FEMALE STUDENTS, STUDENTS WITH DISABILITIES, AND**
14 **STUDENTS OF ETHNIC, RACIAL, OR OTHER DEMOGRAPHIC GROUPS THAT ARE**
15 **UNDERREPRESENTED IN THE FIELD OF COMPUTER SCIENCE AS IDENTIFIED BY THE**
16 **U.S. EQUAL EMPLOYMENT OPPORTUNITY COMMISSION.**

17 **(E) (1) THERE IS A COMPUTING EDUCATION AND PROFESSIONAL**
18 **DEVELOPMENT FUND.**

19 **(2) THE PURPOSE OF THE FUND IS TO SUPPORT THE ACTIVITIES OF**
20 **THE CENTER AND PROVIDE GRANTS UNDER THIS SECTION.**

21 **(3) THE CENTER SHALL ADMINISTER THE FUND.**

22 **(4) (I) THE FUND IS A SPECIAL, NONLAPSING FUND THAT IS NOT**
23 **SUBJECT TO § 7-302 OF THE STATE FINANCE AND PROCUREMENT ARTICLE.**

24 **(II) ANY UNSPENT PORTIONS OF THE FUND MAY NOT BE**
25 **TRANSFERRED OR REVERT TO THE GENERAL FUND OF THE STATE, BUT SHALL**
26 **REMAIN IN THE FUND TO BE USED FOR THE PURPOSES SPECIFIED IN THIS SECTION.**

27 **(III) THE STATE TREASURER SHALL HOLD THE FUND**
28 **SEPARATELY, AND THE COMPTROLLER SHALL ACCOUNT FOR THE FUND.**

29 **(5) THE FUND CONSISTS OF:**

1 **(I) MONEY APPROPRIATED IN THE STATE BUDGET TO THE**
2 **FUND;**

3 **(II) INTEREST EARNINGS OF THE FUND; AND**

4 **(III) ANY OTHER MONEY FROM ANY OTHER SOURCE, INCLUDING**
5 **DONATIONS, ACCEPTED FOR THE BENEFIT OF THE FUND.**

6 **(6) THE FUND MAY BE USED ONLY FOR:**

7 **(I) ANY ACTIVITY OR PROGRAM THAT FURTHERS THE**
8 **PURPOSES LISTED IN SUBSECTION (B) OF THIS SECTION;**

9 **(II) GRANTS MADE BY THE CENTER; AND**

10 **(III) ADMINISTRATIVE EXPENSES OF THE CENTER.**

11 **(7) (I) THE STATE TREASURER SHALL INVEST THE MONEY OF THE**
12 **FUND IN THE SAME MANNER AS OTHER STATE MONEY MAY BE INVESTED.**

13 **(II) ANY INTEREST EARNINGS OF THE FUND SHALL BE**
14 **CREDITED TO THE FUND.**

15 **(8) EXPENDITURES FROM THE FUND MAY BE MADE ONLY IN**
16 **ACCORDANCE WITH THE STATE BUDGET.**

17 **(9) THE GOVERNOR SHALL APPROPRIATE AT LEAST THE FOLLOWING**
18 **AMOUNTS TO THE FUND:**

19 **(I) \$1,000,000 FOR FISCAL YEAR 2020; AND**

20 **(II) \$1,000,000 FOR FISCAL YEAR 2021.**

21 **(10) THE CENTER SHALL, WHEN ECONOMICALLY BENEFICIAL,**
22 **LEVERAGE STATE RESOURCES AND SYSTEMS TO EFFECTIVELY AND EFFICIENTLY**
23 **EXECUTE THE REQUIREMENTS OF THIS SECTION.**

24 **Article – State Finance and Procurement**

25 6–226.

26 (a) (2) (i) Notwithstanding any other provision of law, and unless
27 inconsistent with a federal law, grant agreement, or other federal requirement or with the
28 terms of a gift or settlement agreement, net interest on all State money allocated by the
29 State Treasurer under this section to special funds or accounts, and otherwise entitled to

1 receive interest earnings, as accounted for by the Comptroller, shall accrue to the General
2 Fund of the State.

3 (ii) The provisions of subparagraph (i) of this paragraph do not apply
4 to the following funds:

5 101. the Advance Directive Program Fund; [and]

6 102. the Make Office Vacancies Extinct Matching Fund; AND

7 **103. THE COMPUTING EDUCATION AND PROFESSIONAL**
8 **DEVELOPMENT FUND.**

9 SECTION 2. AND BE IT FURTHER ENACTED, That this Act shall take effect June
10 1, 2018.

Approved:

Governor.

Speaker of the House of Delegates.

President of the Senate.