

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

A BILL ENTITLED

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 to develop
10 a certain plan to be finalized and published on or before a certain date on a certain
11 website; requiring the Center to provide certain professional development and
12 programs; requiring the Center to maintain a certain clearinghouse and to
13 communicate and promote certain activities; requiring the Center to publish an
14 annual report on the Center's website and to report annually to certain individuals
15 and entities; requiring the Center to administer a certain grant program; providing
16 for the administration of the grant program; establishing the Computing Education
17 and Professional Development Fund; providing for the uses, purposes, sources of
18 funding, and investment of money in the Fund; requiring the Center to administer
19 the Fund; providing that the Fund is a special, nonlapsing fund not subject to certain
20 provisions of law; requiring interest earnings of the Fund to be credited to the Fund;
21 requiring the Governor to appropriate a certain amount of funding to the Fund in
22 certain fiscal years; requiring the Center to leverage certain resources in a certain
23 manner under certain circumstances; exempting the Fund from a certain provision
24 of law requiring interest on State money in special funds to accrue to the General
25 Fund of the State; defining certain terms; and generally relating to computer science
26 education.

27 BY adding to

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.

[Brackets] indicate matter deleted from existing law.



1 Article – Education
2 Section 4–111.4 and 12–118
3 Annotated Code of Maryland
4 (2014 Replacement Volume and 2017 Supplement)

5 BY repealing and reenacting, without amendments,
6 Article – State Finance and Procurement
7 Section 6–226(a)(2)(i)
8 Annotated Code of Maryland
9 (2015 Replacement Volume and 2017 Supplement)

10 BY repealing and reenacting, with amendments,
11 Article – State Finance and Procurement
12 Section 6–226(a)(2)(ii)101. and 102.
13 Annotated Code of Maryland
14 (2015 Replacement Volume and 2017 Supplement)

15 BY adding to
16 Article – State Finance and Procurement
17 Section 6–226(a)(2)(ii)103.
18 Annotated Code of Maryland
19 (2015 Replacement Volume and 2017 Supplement)

20 Preamble

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

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

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

30 WHEREAS, Providing access to high quality computer science courses that meet
31 rigorous standards beginning in the earliest grades possible and increasing access to
32 high-quality computer science training programs for educators will ensure that all
33 students master the computer science skills they need to enter well-paying careers; and

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

37 WHEREAS, To ensure students have equitable access to technology and computer

1 science education, educators must also have equitable access to opportunities to obtain
2 postsecondary training in computer science, which includes computer science degrees,
3 industry-recognized certificates, and other training that will enable educators to teach
4 high-quality computer science courses in public schools; now, therefore,

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

7 **Article – Education**

8 **4-111.4.**

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

12 (B) (1) BEGINNING IN THE 2021-2022 SCHOOL YEAR, EACH COUNTY
13 BOARD SHALL REQUIRE EACH PUBLIC HIGH SCHOOL IN THE COUNTY TO OFFER AT
14 LEAST ONE COMPUTER SCIENCE COURSE.

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

18 (3) THE COUNTY BOARD SHALL MAKE EFFORTS TO:

19 (I) INCORPORATE INSTRUCTION IN COMPUTER SCIENCE IN
20 EACH PUBLIC ELEMENTARY AND MIDDLE SCHOOL IN THE COUNTY; AND

21 (II) INCREASE THE ENROLLMENT IN MIDDLE AND HIGH SCHOOL
22 COMPUTER SCIENCE COURSES OF:

23 1. FEMALE STUDENTS;

24 2. STUDENTS WITH DISABILITIES; AND

25 3. STUDENTS OF ETHNIC, RACIAL, AND OTHER
26 DEMOGRAPHIC GROUPS THAT ARE UNDERREPRESENTED IN THE FIELD OF
27 COMPUTER SCIENCE AS IDENTIFIED BY THE U.S. EQUAL EMPLOYMENT
28 OPPORTUNITY COMMISSION.

29 **12-118.**

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

1 INDICATED.

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

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

6 (4) "FUND" MEANS THE COMPUTING EDUCATION AND
7 PROFESSIONAL DEVELOPMENT FUND.

8 (5) "PLAN" MEANS THE MARYLAND STATE COMPUTER SCIENCE
9 EDUCATION IMPLEMENTATION PLAN.

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

14 (2) THE PURPOSE OF THE CENTER IS TO EXPAND ACCESS TO
15 HIGH-QUALITY COMPUTER SCIENCE EDUCATION IN GRADES PREKINDERGARTEN
16 THROUGH 12 BY STRENGTHENING THE SKILLS OF EDUCATORS AND INCREASING THE
17 NUMBER OF COMPUTER SCIENCE TEACHERS IN ELEMENTARY AND SECONDARY
18 EDUCATION.

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

21 (2) IN DEVELOPING THE PLAN, THE CENTER SHALL PLACE PRIORITY
22 ON REACHING SCHOOL DISTRICTS WITH HIGH POVERTY AND LARGE RURAL AREAS
23 AND STUDENT POPULATIONS THAT ARE UNDERREPRESENTED IN COMPUTER
24 SCIENCE FIELDS.

25 (3) THE PLAN SHALL IDENTIFY:

26 (I) SPECIFIC ACTIONS, RESOURCES, METRICS, AND
27 BENCHMARKS TO CREATE A LONG-TERM SUSTAINABLE PIPELINE OF COMPUTER
28 SCIENCE TEACHERS; AND

29 (II) ACTIVITIES TO OBTAIN AND SUSTAIN PUBLIC AND PRIVATE
30 PARTNERSHIPS FOR FUNDING, MENTORING, AND INTERNSHIPS FOR TEACHERS.

31 (4) ON OR BEFORE JULY 1, 2019, THE CENTER SHALL FINALIZE AND

1 PUBLISH THE PLAN ON ITS WEBSITE.

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

5 (2) IN PROVIDING PROFESSIONAL DEVELOPMENT TO COMPUTER
6 SCIENCE TEACHERS, THE CENTER SHALL:

7 (I) MAINTAIN A CLEARINGHOUSE WITH COMPUTER SCIENCE
8 EDUCATION CURRICULA AND RESOURCES TO SUPPORT PROFESSIONAL
9 DEVELOPMENT IN COMPUTER SCIENCE EDUCATION;

10 (II) COMMUNICATE AND PROMOTE THE CENTER'S ACTIVITIES
11 TO MAINTAIN TRANSPARENCY ABOUT UPCOMING OPPORTUNITIES AND AVAILABLE
12 RESOURCES; AND

13 (III) 1. PUBLISH AN ANNUAL REPORT ON THE CENTER'S
14 WEBSITE ON THE CENTER'S PROGRESS IN IMPLEMENTING THE PLAN DESCRIBED IN
15 SUBSECTION (C) OF THIS SECTION; AND

16 2. PROVIDE A COPY OF THE ANNUAL REPORT TO THE
17 GOVERNOR, THE UNIVERSITY SYSTEM OF MARYLAND, THE STATE DEPARTMENT OF
18 EDUCATION, AND, IN ACCORDANCE WITH § 2-1246 OF THE STATE GOVERNMENT
19 ARTICLE, THE GENERAL ASSEMBLY.

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

22 (II) THE GRANT PROGRAM SHALL:

23 1. BE ADMINISTERED THROUGH AN OPEN AND
24 COMPETITIVE PROCESS;

25 2. PRIORITIZE APPLICATIONS FROM COUNTY BOARDS
26 OF EDUCATION, INSTITUTIONS OF HIGHER EDUCATION, NONPROFIT
27 ORGANIZATIONS, AND OTHER ENTITIES IDENTIFIED IN THE PLAN; AND

28 3. PRIORITIZE APPLICATIONS THAT FOCUS ON SERVING:

29 A. AREAS WITH HIGH POVERTY;

30 B. RURAL AREAS; OR

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

6 **(E) (1) THERE IS A COMPUTING EDUCATION AND PROFESSIONAL**
7 **DEVELOPMENT FUND.**

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

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

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

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

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

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

19 **(I) MONEY APPROPRIATED IN THE STATE BUDGET TO THE**
20 **FUND;**

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

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

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

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

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

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

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

3 **(II) ANY INTEREST EARNINGS OF THE FUND SHALL BE**
4 **CREDITED TO THE FUND.**

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

7 **(9) THE GOVERNOR SHALL APPROPRIATE AT LEAST THE FOLLOWING**
8 **AMOUNTS TO THE FUND:**

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

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

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

14 **Article – State Finance and Procurement**

15 6–226.

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

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

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

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

26 **103. THE COMPUTING EDUCATION AND PROFESSIONAL**
27 **DEVELOPMENT FUND.**

28 SECTION 2. AND BE IT FURTHER ENACTED, That this Act shall take effect June
29 1, 2018.