MAINE STATE LEGISLATURE

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129th MAINE LEGISLATURE

FIRST REGULAR SESSION-2019

An Act To Establish Computer Science Courses and Content in Kindergarten to Grade 12 Schools

Reference to the Committee on Education and Cultural Affairs suggested and ordered printed.

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ROBERT B. HUNT
Clerk

Presented by Representative PIERCE of Falmouth.
Cosponsored by Senator POULIOT of Kennebec and
Representatives: FARNSWORTH of Portland, HUBBELL of Bar Harbor, JORGENSEN of Portland, LYFORD of Eddington, STEARNS of Guilford, STEWART of Presque Isle.

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 20-A MRSA c. 335 is enacted to read:

CHAPTER 335

COMPUTER SCIENCE EDUCATION

§9931. Definitions

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings.

1. Computer devices and instructional materials. "Computer devices and instructional materials" means electronic, digital and analog devices or materials used in computer science courses and content.

2. Computer science. "Computer science" means the study of computers and algorithmic processes, including their principles, their hardware and software designs, their implementation and their effect on society. This study must focus on how to engage in computational thinking, create new technologies and use technology.

3. Computer science courses and content. "Computer science courses and content" means kindergarten to grade 12 courses that teach computer science as stand-alone courses or, for elementary school, junior high school or middle school, embedded in other subjects.

4. Computer science professional development. "Computer science professional development" means high-quality professional education that:

A. Clarifies the conceptual foundations of computer science;

B. Teaches research-based practices, including hands-on and inquiry-based learning; and

C. Is intended for elementary and secondary school teachers with or without prior exposure to computer science.

§9932. Computer science professional development grant program

The commissioner shall establish a competitive grant program to provide support to eligible entities pursuant to this section.

1. Eligible entities. For purposes of this section, eligible entities include:

A. A regional school unit, school administrative district or school administrative unit with at least one teacher engaged in computer science courses and content; and

B. Computer science professional development education providers, including institutions of higher education in the State, nonprofit organizations and private entities working in partnership with regional school units, school administrative districts or school administrative units.

2. Eligible uses. An eligible entity may use funds received pursuant to this section for computer science professional development, including costs of transportation, mentoring and coaching.

3. Applications and guidelines. The department shall establish grant guidelines and develop grant application forms and institute any policies and procedures necessary to carry out the provisions of this section. These procedures must include at a minimum:

A. A competitive application process;

B. A process to review applications from eligible entities;

C. A process to determine the amount of the grant award;

D. Priority criteria for grant awards; and

E. Annual reporting requirements for eligible entities who receive a grant under this section.

§9933. Statewide computer science education plan

Prior to the beginning of the 2020-2021 school year, the department shall develop a statewide plan for computer science education to communicate and implement the department's vision of and goals for kindergarten to grade 12 computer science education. The department shall update the plan on a regular basis.

§9934. Development of computer science standards

Prior to the beginning of the 2020-2021 school year, the department shall develop rigorous kindergarten to grade 12 computer science education standards and shall consider computer science courses and content standards that exist prior to the 2020-2021 school year. The department shall update the standards on a regular basis.

§9935. Computer devices and instructional materials access grant program

The commissioner shall establish a competitive grant program for eligible entities to receive funds for the purchase of computer devices and instructional materials.

1. Eligible entities. For purposes of this section, eligible entities include:

A. A regional school unit, school administrative district or school administrative unit with at least one teacher engaged in computer science courses and content; and

B. Computer science professional development education providers, including institutions of higher education in the State, nonprofit organizations and private entities working in partnership with regional school units, school administrative districts or school administrative units.

2. Eligible use. An eligible entity may use funds received pursuant to this section to purchase computer devices and instructional materials necessary to implement computer science instruction.

3. Applications and guidelines. The department shall establish grant guidelines and develop grant application forms and institute any policies and procedures necessary to carry out the provisions of this section. These procedures must include at a minimum:

A. A competitive application process;

B. A process to review applications from eligible entities;

C. A process to determine the amount of the grant award;

D. Priority criteria for grant awards; and

E. Annual reporting requirements for eligible entities who receive a grant under this section.

§9936. Computer science teacher certification program

The commissioner shall work with the University of Maine System to develop and implement, on at least 4 campuses of the system, a computer science teacher certification program for students majoring in education. The program must be designed to enable a certified student to begin teaching computer science courses and content in kindergarten to grade 12 schools immediately upon graduation.

§9937. Rules

The commissioner may adopt rules necessary to implement the provisions of this chapter. Rules adopted pursuant to this section are routine technical rules pursuant to Title 5, chapter 375, subchapter 2-A.

Sec. 2. Appropriations and allocations. The following appropriations and allocations are made.

EDUCATION, DEPARTMENT OF

Learning Systems Team Z081

Initiative: Provides ongoing funds for a grant program for eligible entities to provide computer science professional development training for teachers in kindergarten to grade 12.

GENERAL FUND	2019-20	2020-21
All Other	$1,095,000	$1,095,000
GENERAL FUND TOTAL	$1,095,000	$1,095,000

Learning Systems Team Z081

Initiative: Provides one-time funds for the creation of a statewide plan for computer science and the development and implementation of learning standards in computer science for kindergarten to grade 12.

	GENERAL FUND	2019-20	2020-21
	All Other	$120,000	$0
	GENERAL FUND TOTAL	$120,000	$0

Learning Systems Team Z081

Initiative: Provides ongoing funds for a grant program for eligible entities to provide devices and instructional materials for computer science education.

	GENERAL FUND	2019-20	2020-21
	All Other	$909,066	$855,000
	GENERAL FUND TOTAL	$909,066	$855,000

Learning Systems Team Z081

Initiative: Provides ongoing funds for one Regional Education Representative position and associated All Other costs to serve as the kindergarten to grade 12 computer science liaison position to support the creation and implementation of a statewide plan for computer science education and to develop and implement computer science standards.

	GENERAL FUND	2019-20	2020-21
	POSITIONS - LEGISLATIVE COUNT	1.000	1.000
	Personal Services	$73,803	$103,009
	All Other	$6,383	$6,383
	GENERAL FUND TOTAL	$80,186	$109,392

	EDUCATION, DEPARTMENT OF		
	DEPARTMENT TOTALS	2019-20	2020-21
	GENERAL FUND	**$2,204,252**	**$2,059,392**
	DEPARTMENT TOTAL - ALL FUNDS	**$2,204,252**	**$2,059,392**

UNIVERSITY OF MAINE SYSTEM, BOARD OF TRUSTEES OF THE

Educational and General Activities - UMS 0031

Initiative: Provides ongoing funds for a certification program for University of Maine System students majoring in education to become certified to teach computer science courses and content in kindergarten to grade 12 upon graduation.

		2019-20	2020-21
1	**GENERAL FUND**		
2	All Other	$152,000	$120,000
3			
4	GENERAL FUND TOTAL	$152,000	$120,000
5			
6	**UNIVERSITY OF MAINE SYSTEM, BOARD OF**		
7	**TRUSTEES OF THE**		
8	**DEPARTMENT TOTALS**	**2019-20**	**2020-21**
9			
10	**GENERAL FUND**	**$152,000**	**$120,000**
11			
12	**DEPARTMENT TOTAL - ALL FUNDS**	**$152,000**	**$120,000**
13			
14	**SECTION TOTALS**	**2019-20**	**2020-21**
15			
16	**GENERAL FUND**	**$2,356,252**	**$2,179,392**
17			
18	**SECTION TOTAL - ALL FUNDS**	**$2,356,252**	**$2,179,392**

19 ## SUMMARY

20   This bill provides the necessary resources and support for kindergarten to grade 12
21 schools to adopt computer science into their courses and curriculums. The bill establishes
22 a grant program for computer science professional development, including costs of
23 transportation, mentoring and coaching. The bill also requires the Department of
24 Education to develop a statewide plan as well as computer science standards for
25 kindergarten to grade 12 schools. The bill creates a full-time Regional Education
26 Representative position in the Department of Education to support the creation and
27 implementation of the plan and the standards. The bill establishes a grant program for
28 computer devices and instructional materials to provide the tools necessary for schools to
29 implement computer science courses and content. The bill also establishes a computer
30 science teacher certification program for students who are majoring in education in the
31 University of Maine System. Finally, the bill authorizes the Department of Education to
32 adopt rules as necessary to implement the provisions of the bill.