

**Second Regular Session
Seventieth General Assembly
STATE OF COLORADO**

PREAMENDED

*This Unofficial Version Includes Committee
Amendments Not Yet Adopted on Second Reading*

LLS NO. 16-0426.01 Brita Darling x2241

HOUSE BILL 16-1291

HOUSE SPONSORSHIP

Duran and Lontine,

SENATE SPONSORSHIP

Hill and Johnston,

House Committees

Education
Appropriations

Senate Committees

A BILL FOR AN ACT

101 **CONCERNING DEVELOPING ADDITIONAL RESOURCES FOR MODERN**
102 **TECHNOLOGY EDUCATION IN PUBLIC SCHOOLS.**

Bill Summary

(Note: This summary applies to this bill as introduced and does not reflect any amendments that may be subsequently adopted. If this bill passes third reading in the house of introduction, a bill summary that applies to the reengrossed version of this bill will be available at <http://www.leg.state.co.us/billsummaries>.)

Under current law, the state board of education (state board) must, by July 1, 2018, review and revise, as necessary, the state academic standards. The bill directs the state board, in the course of revising the academic standards, to incorporate into the standards for each subject skills relating to the use of information and communications technologies to find, evaluate, create, and communicate information.

Shading denotes HOUSE amendment. Double underlining denotes SENATE amendment.
*Capital letters indicate new material to be added to existing statute.
Dashes through the words indicate deletions from existing statute.*

The bill directs the department of education (department) to create a resource bank of materials pertaining to computer science programs, including model standards, samples of curricula, and materials for professional educator development. The department must work with experts in creating and compiling the information. The resource bank is to be available by July 1, 2017. Each school district, charter school, and board of cooperative services may choose whether to provide computer science courses and whether to use the materials in the resource bank.

In addition, the bill creates a grant program in the department that awards grants to school districts or public school teachers in Colorado who wish to pursue additional education that will enable the teachers to teach computer science courses. The bill defines computer science education.

An individual teacher, the teacher's employer on behalf of the teacher, or a school district may apply for a grant. The grant may be used for tuition, fees, training program costs, and books for postsecondary computer science course work that leads to mastery in a computer science content area, computer science training programs, computer science degrees, or industry-recognized certificates in computer science.

The department will administer the grant program pursuant to rules adopted by the state board relating to the application process, the amount and duration of the grants, and the uses of grant moneys.

The department will accept and review grant applications and make recommendations to the state board concerning the award of grants. In awarding grants, the state board may give priority to teachers who meet certain qualifications specified in the bill.

If moneys are appropriated for the grant program, the state board shall award grants pursuant to the program rules.

The department shall report annually to the education committees of the general assembly concerning the implementation of the grant program.

1 *Be it enacted by the General Assembly of the State of Colorado:*

2 **SECTION 1. Legislative declaration.** (1) The general assembly
3 finds that:

4 (a) The ability to use and understand technology is a critical skill
5 that students need to achieve success in school, in the workplace, and in
6 their personal lives. While the state board of education has developed and
7 adopted robust state academic standards in ten subjects, these standards

1 have not been updated with guidelines for digital literacy.

2 (b) School districts and public schools that choose to offer
3 computer science courses and teachers who teach these courses do not
4 have access to a set of rigorous grade-level expectations for mastery of
5 this discrete subject area;

6 (c) Computer science is a critical area of growth for Colorado's
7 economy, and thousands of computing jobs with businesses in the state
8 remain unfilled each year. Providing rigorous standards for computer
9 science courses and increasing access to high-quality computer science
10 training programs will help ensure that more students master the
11 computer science skills that can lead to rewarding, high-paying, and
12 in-demand careers.

13 (d) Many students do not have access to technology and computer
14 science training, which results in a lack of gender and ethnic diversity in
15 science, technology, engineering, and mathematics careers. In Colorado,
16 Hispanic workers comprise only six percent of the employees in
17 computer, engineering, and science occupations. Also, only twenty-four
18 percent of the persons working in computer-related occupations and only
19 fifteen percent of engineers are female. Providing voluntary model
20 standards and materials to school districts, boards of cooperative services,
21 and charter schools will help provide more equitable access to computer
22 science courses in public schools throughout the state.

23 (e) In order to increase students' access to technology and
24 computer science education, public school teachers must have the
25 opportunity to obtain additional postsecondary education, including
26 computer science degrees, industry-recognized certificates, or other
27 rigorous computer science training, that enables the teacher to teach

1 computer science courses in public schools.

2 (2) The general assembly finds, therefore, that it is in the best
3 interests of the people of the state of Colorado to include guidelines
4 relating to the use of information and communications technologies
5 within the state academic standards and to direct the department of
6 education to provide a resource bank of model academic content
7 standards in computer science and model course materials for computer
8 science courses for the voluntary use of school districts, boards of
9 cooperative services, and charter schools. The general assembly further
10 finds that it is appropriate to create a grant program that provides public
11 school teachers with financial resources to pay for additional
12 postsecondary education that enables the teacher to teach computer
13 science courses in public schools.

14 **SECTION 2.** In Colorado Revised Statutes, 22-7-1005, **amend**
15 (3) (e) as follows:

16 **22-7-1005. Preschool through elementary and secondary**
17 **education - aligned standards - adoption - revisions.** (3) The state
18 board in adopting the preschool through elementary and secondary
19 education standards shall:

20 (e) Ensure that, in addition to measuring a student's subject matter
21 knowledge, the standards, to the extent practicable, will require a student
22 to develop and demonstrate creativity and innovation skills;
23 critical-thinking and problem-solving skills; communication and
24 collaboration skills; social and cultural awareness; civic engagement;
25 initiative and self-direction; flexibility; productivity and accountability;
26 character and leadership; ~~information technology application skills~~ THE
27 ABILITY TO USE INFORMATION AND COMMUNICATIONS TECHNOLOGIES TO

1 FIND, EVALUATE, CREATE, AND COMMUNICATE INFORMATION; and other
2 skills critical to preparing students for the twenty-first-century workforce
3 and for active citizenship; and

4 **SECTION 3.** In Colorado Revised Statutes, **add 22-2-127.5** as
5 follows:

6 **22-2-127.5. Computer science programs - resource bank.**

7 (1) (a) THE DEPARTMENT SHALL CREATE AND MAINTAIN A RESOURCE
8 BANK OF MATERIALS PERTAINING TO COMPUTER SCIENCE COURSES AND
9 PROGRAMS. AT A MINIMUM, THE RESOURCE BANK MUST INCLUDE MODEL
10 ACADEMIC CONTENT STANDARDS FOR COMPUTER SCIENCE EDUCATION,
11 MODEL PROGRAMS OF INSTRUCTION FOR COMPUTER SCIENCE, SAMPLES OF
12 MODEL COMPUTER SCIENCE CURRICULA, AND MODEL MATERIALS FOR
13 PROFESSIONAL EDUCATOR DEVELOPMENT IN TEACHING COMPUTER
14 SCIENCE. THE DEPARTMENT SHALL ENSURE THAT THE MATERIALS
15 INCLUDED IN THE RESOURCE BANK REPRESENT THE BEST PRACTICES IN
16 TEACHING COMPUTER SCIENCE AND SHALL SEEK INPUT FROM EXPERTS IN
17 THE AREA OF COMPUTER SCIENCE IN CREATING AND COMPILING THE
18 MATERIALS.

19 (b) THE DEPARTMENT SHALL ENSURE THAT THE RESOURCE BANK
20 IS AVAILABLE FOR ACCESS BY SCHOOL DISTRICTS, CHARTER SCHOOLS, AND
21 BOARDS OF COOPERATIVE SERVICES BY JULY 1, 2017.

22 (c) THE DEPARTMENT SHALL IMPLEMENT THE PROVISIONS OF THIS
23 SECTION TO THE FULLEST DEGREE POSSIBLE WITHIN EXISTING RESOURCES.
24 THE DEPARTMENT MAY CONTRACT WITH ONE OR MORE ENTITIES IN
25 IMPLEMENTING THIS SECTION.

26 (2) A SCHOOL DISTRICT, CHARTER SCHOOL, OR BOARD OF
27 COOPERATIVE SERVICES MAY CHOOSE WHETHER TO PROVIDE CLASSES IN

1 COMPUTER SCIENCE AND WHETHER TO USE THE MATERIALS IN THE
2 RESOURCE BANK TO PROVIDE THOSE CLASSES.

3 (3) THE RESOURCE BANK MAY ALSO IDENTIFY EXISTING
4 RESOURCES AND TOOLS THAT PROVIDE OPPORTUNITIES FOR INDUSTRY
5 EXPERTS IN COMPUTER SCIENCE AND TECHNOLOGY TO BE PAIRED WITH A
6 TEACHER IN THE CLASSROOM TO CO-TEACH COURSES IN COMPUTER
7 SCIENCE. THE RESOURCE BANK MAY ALSO INCLUDE A LISTING OF SCHOOLS
8 AND SCHOOL DISTRICTS THAT ARE INTERESTED IN FINDING INDUSTRY
9 EXPERTS WHO WISH TO VOLUNTEER TO CO-TEACH COMPUTER SCIENCE
10 COURSES, AND A LISTING OF INDUSTRY EXPERTS WHO ARE INTERESTED IN
11 VOLUNTEERING TO CO-TEACH COMPUTER SCIENCE COURSES.

12 **SECTION 4.** In Colorado Revised Statutes, **add** article 97 to title
13 22 as follows:

14 **ARTICLE 97**

15 **Teacher Grants for Computer Science Education**

16 **22-97-101. Definitions.** AS USED IN THIS ARTICLE, UNLESS THE
17 CONTEXT OTHERWISE REQUIRES:

18 (1) "COMPUTER SCIENCE EDUCATION" MEANS THE STUDY OF
19 COMPUTERS, ALGORITHMIC PROCESSES, AND COMPUTER PROGRAMMING
20 AND CODING, INCLUDING THEIR PRINCIPLES, THEIR HARDWARE AND
21 SOFTWARE DESIGNS, THEIR APPLICATIONS, AND THEIR IMPACT ON SOCIETY.

22 (2) "DEPARTMENT" MEANS THE DEPARTMENT OF EDUCATION
23 CREATED AND EXISTING PURSUANT TO SECTION 24-1-115, C.R.S.

24 (3) "ELIGIBLE TEACHER" MEANS A PERSON WHO IS EMPLOYED AS
25 A TEACHER IN A PUBLIC SCHOOL IN THE STATE.

26 (4) "GRANT PROGRAM" MEANS THE GRANT PROGRAM ESTABLISHED
27 PURSUANT TO SECTION 22-97-102.

1 (5) "PUBLIC SCHOOL" HAS THE SAME MEANING AS PROVIDED IN
2 SECTION 22-1-101 AND INCLUDES, BUT IS NOT LIMITED TO, A DISTRICT
3 CHARTER SCHOOL, AN INSTITUTE CHARTER SCHOOL, AND AN ONLINE
4 SCHOOL, AS DEFINED IN SECTION 22-30.7-102 (9.5).

5 (6) "SCHOOL DISTRICT" MEANS A SCHOOL DISTRICT AUTHORIZED
6 BY SECTION 15 OF ARTICLE IX OF THE STATE CONSTITUTION AND
7 ORGANIZED PURSUANT TO ARTICLE 30 OF THIS TITLE. "SCHOOL DISTRICT"
8 ALSO INCLUDES A BOARD OF COOPERATIVE SERVICES CREATED PURSUANT
9 TO ARTICLE 5 OF THIS TITLE, IF IT IS OPERATING A PUBLIC SCHOOL; A
10 DISTRICT CHARTER SCHOOL; AN INSTITUTE CHARTER SCHOOL; AND AN
11 ONLINE SCHOOL, AS DEFINED IN SECTION 22-30.7-102 (9.5).

12 (7) "STATE BOARD" MEANS THE STATE BOARD OF EDUCATION
13 CREATED AND EXISTING PURSUANT TO SECTION 1 OF ARTICLE IX OF THE
14 STATE CONSTITUTION.

15 **22-97-102. Computer science education grants for teachers -**
16 **creation.** (1) THERE IS CREATED IN THE DEPARTMENT A GRANT PROGRAM
17 FOR ELIGIBLE TEACHERS WHO WISH TO PURSUE ADDITIONAL
18 POSTSECONDARY EDUCATION IN ORDER TO PROVIDE COMPUTER SCIENCE
19 EDUCATION TO STUDENTS IN PUBLIC SCHOOLS. A SCHOOL DISTRICT OR A
20 SCHOOL DISTRICT ON BEHALF OF AN ELIGIBLE TEACHER OR TEACHERS MAY
21 APPLY FOR A GRANT.

22 (2) THE DEPARTMENT SHALL ADMINISTER THE GRANT PROGRAM IN
23 ACCORDANCE WITH STATE BOARD RULES. THE DEPARTMENT SHALL
24 ACCEPT AND REVIEW GRANT APPLICATIONS RECEIVED FROM SCHOOL
25 DISTRICTS OR SCHOOL DISTRICTS ON BEHALF OF AN ELIGIBLE TEACHER OR
26 TEACHERS AND SHALL MAKE RECOMMENDATIONS TO THE STATE BOARD
27 FOR THE AWARD OF GRANTS. IN MAKING ITS RECOMMENDATIONS, THE

1 DEPARTMENT MAY CONSIDER THE PRIORITIES CONTAINED IN SUBSECTION
2 (4) OF THIS SECTION.

3 (3) PURSUANT TO ARTICLE 4 OF TITLE 24, C.R.S., THE STATE
4 BOARD SHALL PROMULGATE RULES NECESSARY FOR THE IMPLEMENTATION
5 OF THE GRANT PROGRAM, INCLUDING RULES RELATING TO:

6 (a) THE APPLICATION PROCESS, INCLUDING APPLICATION
7 REQUIREMENTS AND DEADLINES;

8 (b) CRITERIA FOR THE AWARD OF GRANTS, INCLUDING THE
9 PRIORITIES FOR AWARDING GRANTS CONTAINED IN SUBSECTION (4) OF THIS
10 SECTION;

11 (c) THE AMOUNT AND DURATION OF THE GRANTS; AND

12 (d) THE APPROVED USES OF THE GRANT, INCLUDING TUITION, FEES,
13 TRAINING PROGRAM COSTS, AND BOOKS AND MATERIALS.

14 (4) IN AWARDING GRANTS, THE STATE BOARD MAY:

15 (a) GIVE PRIORITY TO A SCHOOL DISTRICT ON BEHALF OF AN
16 ELIGIBLE TEACHER IN A PUBLIC SCHOOL OR A SCHOOL DISTRICT THAT DOES
17 NOT HAVE ENOUGH TEACHERS QUALIFIED TO TEACH COMPUTER SCIENCE
18 COURSES AND THAT:

19 (I) SERVES A HIGH-POVERTY STUDENT POPULATION;

20 (II) SERVES A HIGH NUMBER OF MINORITY STUDENTS; OR

21 (III) SERVES STUDENTS IN RURAL AREAS;

22 (b) GIVE PRIORITY TO A SCHOOL DISTRICT ON BEHALF OF AN
23 ELIGIBLE TEACHER OR TEACHERS WHO INTEND TO CONTINUE TEACHING IN
24 PUBLIC SCHOOLS IN COLORADO AFTER COMPLETING THE POSTSECONDARY
25 EDUCATION OBTAINED THROUGH THE GRANT PROGRAM; AND

26 (c) GIVE PRIORITY TO POSTSECONDARY COURSE WORK OR
27 TRAINING THAT ENABLES A TEACHER TO TEACH COMPUTER SCIENCE,

1 INCLUDING CONCURRENT ENROLLMENT COURSES IN COMPUTER SCIENCE,
2 AND THAT APPLIES TOWARD THE COMPLETION OF A DEGREE IN COMPUTER
3 SCIENCE, THE COMPLETION OF AN INDUSTRY-RECOGNIZED CERTIFICATE IN
4 COMPUTER SCIENCE, OR THE COMPLETION OF A HIGH-QUALITY TRAINING
5 PROGRAM, OR THAT RESULTS IN THE MASTERY OF A TEACHING CONTENT
6 AREA IN COMPUTER SCIENCE.

7 (5) THE STATE BOARD MAY AWARD GRANTS TO SCHOOL DISTRICTS
8 FOR HIGH-QUALITY TRAINING PROGRAMS OFFERED TO TEACHERS IN THE
9 DISTRICT THAT ENABLE THE TEACHERS TO TEACH COMPUTER SCIENCE
10 COURSES.

11 (6) SUBJECT TO AVAILABLE APPROPRIATIONS, THE STATE BOARD
12 SHALL ANNUALLY AWARD GRANTS.

13 **22-97-103. Reporting.** (1) NO LATER THAN JANUARY 1, 2017,
14 AND NO LATER THAN EACH JANUARY 1 THEREAFTER IF THE STATE BOARD
15 HAS AWARDED A GRANT DURING THE PREVIOUS CALENDAR YEAR, THE
16 DEPARTMENT SHALL REPORT TO THE EDUCATION COMMITTEES OF THE
17 HOUSE OF REPRESENTATIVES AND OF THE SENATE, OR ANY SUCCESSOR
18 COMMITTEES.

19 (2) AT A MINIMUM, THE REPORT MUST INCLUDE:

20 (a) THE NUMBER OF GRANTS AWARDED DURING THE PREVIOUS
21 CALENDAR YEAR;

22 (b) THE AMOUNT OF THE GRANTS;

23 (c) THE NUMBER OF TEACHERS RECEIVING A GRANT; AND

24 (d) THE USES OF THE GRANT, INCLUDING THE POSTSECONDARY
25 COURSES, DEGREES, TRAINING PROGRAMS, OR INDUSTRY-RECOGNIZED
26 CERTIFICATES COMPLETED AND THE EDUCATION PROVIDER PROVIDING THE
27 EDUCATION.

1 **SECTION 5. Act subject to petition - effective date.** This act
2 takes effect at 12:01 a.m. on the day following the expiration of the
3 ninety-day period after final adjournment of the general assembly (August
4 10, 2016, if adjournment sine die is on May 11, 2016); except that, if a
5 referendum petition is filed pursuant to section 1 (3) of article V of the
6 state constitution against this act or an item, section, or part of this act
7 within such period, then the act, item, section, or part will not take effect
8 unless approved by the people at the general election to be held in
9 November 2016 and, in such case, will take effect on the date of the
10 official declaration of the vote thereon by the governor.