HOUSE BILL 16-1291

HOUSE SPONSORSHIP

Duran and Lontine,

SENATE SPONSORSHIP

Hill and Johnston,

House Committees	Senate Committees
Education	

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.

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.

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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

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

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

ARTICLE 97

Teacher Grants for Computer Science Education

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

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

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

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

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

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

(6) "SCHOOL DISTRICT" MEANS A SCHOOL DISTRICT AUTHORIZED
BY SECTION 15 OF ARTICLE IX OF THE STATE CONSTITUTION AND
ORGANIZED PURSUANT TO ARTICLE 30 OF THIS TITLE. "SCHOOL DISTRICT"
ALSO INCLUDES A BOARD OF COOPERATIVE SERVICES CREATED PURSUANT
TO ARTICLE 5 OF THIS TITLE, IF IT IS OPERATING A PUBLIC SCHOOL; A

1 DISTRICT CHARTER SCHOOL; AN INSTITUTE CHARTER SCHOOL; AND AN

2 ONLINE SCHOOL, AS DEFINED IN SECTION 22-30.7-102 (9.5).

3   (7) "STATE BOARD" MEANS THE STATE BOARD OF EDUCATION

4 CREATED AND EXISTING PURSUANT TO SECTION 1 OF ARTICLE IX OF THE

5 STATE CONSTITUTION.

6   **22-97-102. Computer science education grants for teachers -**

7 **creation.** (1) THERE IS CREATED IN THE DEPARTMENT A GRANT PROGRAM

8 FOR ELIGIBLE TEACHERS WHO WISH TO PURSUE ADDITIONAL

9 POSTSECONDARY EDUCATION IN ORDER TO PROVIDE COMPUTER SCIENCE

10 EDUCATION TO STUDENTS IN PUBLIC SCHOOLS. AN ELIGIBLE TEACHER AND

11 A SCHOOL DISTRICT ON BEHALF OF AN ELIGIBLE TEACHER OR TEACHERS

12 MAY APPLY FOR A GRANT.

13   (2) THE DEPARTMENT SHALL ADMINISTER THE GRANT PROGRAM IN

14 ACCORDANCE WITH STATE BOARD RULES. THE DEPARTMENT SHALL

15 ACCEPT AND REVIEW GRANT APPLICATIONS RECEIVED FROM ELIGIBLE

16 TEACHERS OR SCHOOL DISTRICTS ON BEHALF OF ELIGIBLE TEACHERS AND

17 SHALL MAKE RECOMMENDATIONS TO THE STATE BOARD FOR THE AWARD

18 OF GRANTS. IN MAKING ITS RECOMMENDATIONS, THE DEPARTMENT MAY

19 CONSIDER THE PRIORITIES CONTAINED IN SUBSECTION (4) OF THIS SECTION.

20   (3) PURSUANT TO ARTICLE 4 OF TITLE 24, C.R.S., THE STATE

21 BOARD SHALL PROMULGATE RULES NECESSARY FOR THE IMPLEMENTATION

22 OF THE GRANT PROGRAM, INCLUDING RULES RELATING TO:

23   (a) THE APPLICATION PROCESS, INCLUDING APPLICATION

24 REQUIREMENTS AND DEADLINES;

25   (b) CRITERIA FOR THE AWARD OF GRANTS, INCLUDING THE

26 PRIORITIES FOR AWARDING GRANTS CONTAINED IN SUBSECTION (4) OF THIS

27 SECTION;

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

2   (d) THE APPROVED USES OF THE GRANT, INCLUDING TUITION, FEES,

3 TRAINING PROGRAM COSTS, AND BOOKS AND MATERIALS.

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

5   (a) GIVE PRIORITY TO ELIGIBLE TEACHERS IN A PUBLIC SCHOOL OR

6 A SCHOOL DISTRICT THAT DOES NOT HAVE ENOUGH TEACHERS QUALIFIED

7 TO TEACH COMPUTER SCIENCE COURSES AND THAT:

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

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

10   (III) SERVES STUDENTS IN RURAL AREAS;

11   (b) GIVE PRIORITY TO ELIGIBLE TEACHERS WHO INTEND TO

12 CONTINUE TEACHING IN PUBLIC SCHOOLS IN COLORADO AFTER

13 COMPLETING THE POSTSECONDARY EDUCATION OBTAINED THROUGH THE

14 GRANT PROGRAM; AND

15   (c) GIVE PRIORITY TO POSTSECONDARY COURSE WORK OR

16 TRAINING THAT ENABLES A TEACHER TO TEACH COMPUTER SCIENCE,

17 INCLUDING CONCURRENT ENROLLMENT COURSES IN COMPUTER SCIENCE,

18 AND THAT APPLIES TOWARD THE COMPLETION OF A DEGREE IN COMPUTER

19 SCIENCE, THE COMPLETION OF AN INDUSTRY-RECOGNIZED CERTIFICATE IN

20 COMPUTER SCIENCE, OR THE COMPLETION OF A HIGH-QUALITY TRAINING

21 PROGRAM, OR THAT RESULTS IN THE MASTERY OF A TEACHING CONTENT

22 AREA IN COMPUTER SCIENCE.

23   (5) THE STATE BOARD MAY AWARD GRANTS TO SCHOOL DISTRICTS

24 FOR HIGH-QUALITY TRAINING PROGRAMS OFFERED TO TEACHERS IN THE

25 DISTRICT THAT ENABLE THE TEACHERS TO TEACH COMPUTER SCIENCE

26 COURSES.

27   (6) SUBJECT TO AVAILABLE APPROPRIATIONS, THE STATE BOARD

1   SHALL ANNUALLY AWARD GRANTS.

2   **22-97-103. Reporting.** (1) NO LATER THAN JANUARY 1, 2017,

3   AND NO LATER THAN EACH JANUARY 1 THEREAFTER IF THE STATE BOARD

4   HAS AWARDED A GRANT DURING THE PREVIOUS CALENDAR YEAR, THE

5   DEPARTMENT SHALL REPORT TO THE EDUCATION COMMITTEES OF THE

6   HOUSE OF REPRESENTATIVES AND OF THE SENATE, OR ANY SUCCESSOR

7   COMMITTEES.

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

9   (a) THE NUMBER OF GRANTS AWARDED DURING THE PREVIOUS

10   CALENDAR YEAR;

11   (b) THE AMOUNT OF THE GRANTS;

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

13   (d) THE USES OF THE GRANT, INCLUDING THE POSTSECONDARY

14   COURSES, DEGREES, TRAINING PROGRAMS, OR INDUSTRY-RECOGNIZED

15   CERTIFICATES COMPLETED AND THE EDUCATION PROVIDER PROVIDING THE

16   EDUCATION.

17   **SECTION 5. Act subject to petition - effective date.** This act

18   takes effect at 12:01 a.m. on the day following the expiration of the

19   ninety-day period after final adjournment of the general assembly (August

20   10, 2016, if adjournment sine die is on May 11, 2016); except that, if a

21   referendum petition is filed pursuant to section 1 (3) of article V of the

22   state constitution against this act or an item, section, or part of this act

23   within such period, then the act, item, section, or part will not take effect

24   unless approved by the people at the general election to be held in

25   November 2016 and, in such case, will take effect on the date of the

26   official declaration of the vote thereon by the governor.