

SECOND REGULAR SESSION
[P E R F E C T E D]
SENATE SUBSTITUTE FOR
SENATE COMMITTEE SUBSTITUTE FOR

SENATE BILLS NOS. 894 & 921

99TH GENERAL ASSEMBLY

INTRODUCED BY SENATOR LIBLA.

Offered March 1, 2018.

Senate Substitute adopted, March 1, 2018.

Taken up for Perfection March 1, 2018. Bill declared Perfected and Ordered Printed.

ADRIANE D. CROUSE, Secretary.

5880S.08P

AN ACT

To amend chapters 161 and 170, RSMo, by adding thereto two new sections relating to education curriculum involving science and technology.

Be it enacted by the General Assembly of the State of Missouri, as follows:

Section A. Chapters 161 and 170, RSMo, are amended by adding thereto
2 two new sections, to be known as sections 161.261 and 170.018, to read as follows:

161.261. 1. **Subject to appropriation, the department of
2 elementary and secondary education shall establish a statewide
3 program to be known as the "STEM Career Awareness Program" to
4 increase STEM career awareness among students in grades six through
5 eight. For purposes of this section, "STEM" means science, technology,
6 engineering, and mathematics.**

7 2. **The department of elementary and secondary education shall
8 promote the statewide program beginning in the 2019-20 school
9 year. The program shall introduce students to a wide variety of STEM
10 careers and technology through an online-based STEM curriculum.**

11 3. **Before January 1, 2019, the department of elementary and
12 secondary education shall solicit proposals and select a provider for
13 the online program. The program selected shall meet the following
14 criteria:**

15 (1) **The program introduces students to a wide variety of STEM
16 careers and technologies, including a curriculum explicitly focused on**

17 more than eighty different careers and technologies;

18 (2) The curriculum is organized around the concept of solving
19 societal or human-centered problems, instead of focusing solely on
20 scientific concepts. The curriculum shall have at least ten different
21 problems that emphasize different career clusters;

22 (3) The curriculum is designed for flexible implementation in a
23 wide variety of classrooms, including science, math, English, and social
24 studies, through lessons that emphasize the application of STEM
25 careers in these contexts;

26 (4) The curriculum demonstrates how math and language skills
27 appropriate to middle schools are used by STEM careers, making
28 classroom instruction relevant to students interested in STEM careers;

29 (5) The program uses game-based elements to encourage
30 engagement and competition with students and teams, including
31 automated online leaderboards;

32 (6) The program rewards students, in the game format, for
33 accomplishment in demonstrating the application of math and language
34 skills in the contexts of the STEM careers and technologies;

35 (7) The program automatically produces analytic reports for
36 individual students and for classes, including analysis of performance
37 against individual math and language skills objectives;

38 (8) The curriculum is available in a self-paced format over the
39 internet, allowing access to students through individual student
40 accounts anywhere that the students can access the internet;

41 (9) The curriculum includes a narrative soundtrack
42 accompanying and matching all instructional text to assist students in
43 developing reading skills in the context of STEM careers;

44 (10) The program has a validation from a national, third-party
45 nonprofit organization that the program increases STEM career
46 awareness and interest;

47 (11) The program shall be listed as a recommended STEM
48 resource in ACT's "Condition of STEM" 2015 report; and

49 (12) The program includes web-based professional development
50 for school staff.

51 4. Notwithstanding subsections 2 and 3 of this section, the
52 department of elementary and secondary education may choose a third-
53 party nonprofit entity to implement the statewide program, solicit

54 proposals, and select a provider as described under subsection 3 of this
55 section.

56 5. (1) There is hereby created in the state treasury the "STEM
57 Career Awareness Program Fund". The fund shall consist of any
58 appropriations, gifts, bequests, or public or private donations to such
59 fund. The state treasurer shall be custodian of the fund. In accordance
60 with sections 30.170 and 30.180, the state treasurer may approve
61 disbursements of public moneys in accordance with distribution
62 requirements and procedures developed by the department of
63 elementary and secondary education. The fund shall be a dedicated
64 fund and, upon appropriation, moneys in the fund shall be used solely
65 for the administration of this section.

66 (2) Notwithstanding the provisions of section 33.080 to the
67 contrary, any moneys remaining in the fund at the end of the biennium
68 shall not revert to the credit of the general revenue fund.

69 (3) The state treasurer shall invest moneys in the fund in the
70 same manner as other funds are invested. Any interest and moneys
71 earned on such investments shall be credited to the fund.

72 6. The department of elementary and secondary education may
73 promulgate all necessary rules and regulations for the administration
74 of this section. Any rule or portion of a rule, as that term is defined in
75 section 536.010 that is created under the authority delegated in this
76 section shall become effective only if it complies with and is subject to
77 all of the provisions of chapter 536, and, if applicable, section
78 536.028. This section and chapter 536 are nonseverable and if any of
79 the powers vested with the general assembly pursuant to chapter 536,
80 to review, to delay the effective date, or to disapprove and annul a rule
81 are subsequently held unconstitutional, then the grant of rulemaking
82 authority and any rule proposed or adopted after August 28, 2018, shall
83 be invalid and void.

170.018. 1. (1) For purposes of this subsection, "computer
2 science course" means a course in which students study computers and
3 algorithmic processes, including their principles, their hardware and
4 software designs, their implementation, and their impact on society.

5 (2) The department of elementary and secondary education shall,
6 before July 1, 2019, develop a high school graduation policy that allows
7 a student to fulfill one unit of academic credit with a district-approved

8 computer science course for any math, science, or practical arts unit
9 required for high school graduation. The policy shall require that all
10 students have either taken all courses that require end-of-course exams
11 or are on track to take all courses that require end-of-course exams
12 under the Missouri school improvement program.

13 (3) A school district shall communicate to students electing to
14 replace a mathematics unit with a computer science unit that some
15 institutions of higher education may require four units of academic
16 credit in mathematics for college admission. The parent, guardian, or
17 legal custodian of each student who chooses to take advanced computer
18 science in place of a fourth unit of academic credit in mathematics
19 shall sign and submit to the school a document containing a statement
20 acknowledging that not taking a fourth unit of academic credit in
21 mathematics may have an adverse effect on college admission decisions.

22 (4) The department of elementary and secondary education and
23 the coordinating board for higher education shall cooperate in
24 developing and implementing academic performance standards relating
25 to computer science, however, the ultimate responsibility shall remain
26 with the state board of education.

27 2. (1) Before July 1, 2019, the state board of education shall
28 convene a work group to develop and recommend academic
29 performance standards relating to computer science. The state board
30 of education and the work group shall follow the procedures and
31 conduct the public hearings required by section 160.514. The state
32 board of education shall develop written curriculum frameworks
33 relating to computer science that may be used by school districts in
34 accordance with section 160.514.

35 (2) The state board of education shall adopt and implement
36 academic performance standards relating to computer science
37 beginning in the 2020-21 school year.

38 3. Before July 1, 2019, the state board of education shall develop
39 a procedure by which any teacher who holds a certificate of license to
40 teach under section 168.021 and demonstrates sufficient content
41 knowledge of computer science, as determined by the state board of
42 education, shall receive a special endorsement on his or her license
43 signifying his or her specialized knowledge in computer science.

44 4. (1) For purposes of this subsection, "eligible entity" means:

45 (a) A local educational agency, or a consortium of local
46 educational agencies, in the state, including charter schools that have
47 declared themselves local educational agencies;

48 (b) An institution of higher education in the state; or

49 (c) A nonprofit or private provider of nationally recognized and
50 high-quality computer science professional development, as determined
51 by the state board of education.

52 (2) (a) There is hereby created in the state treasury the
53 "Computer Science Education Fund". The fund shall consist of all
54 moneys that may be appropriated to it by the general assembly and any
55 gifts, contributions, grants, or bequests received from private or other
56 sources for the purpose of providing teacher professional development
57 programs relating to computer science. The state treasurer shall be
58 custodian of the fund. In accordance with sections 30.170 and 30.180,
59 the state treasurer may approve disbursements. The fund shall be a
60 dedicated fund and, upon appropriation, moneys in the fund shall be
61 used solely for the administration of grants to eligible entities as
62 described in this section.

63 (b) Notwithstanding the provisions of section 33.080 to the
64 contrary, any moneys remaining in the fund at the end of the biennium
65 shall not revert to the credit of the general revenue fund.

66 (c) The state treasurer shall invest moneys in the fund in the
67 same manner as other funds are invested. Any interest and moneys
68 earned on such investments shall be credited to the fund.

69 (3) The state board of education shall award grants from the
70 computer science education fund to eligible entities for the purpose of
71 providing teacher professional development programs relating to
72 computer science. An eligible entity wishing to receive such a grant
73 shall submit an application to the department of elementary and
74 secondary education addressing how the entity plans to:

75 (a) Reach new and existing teachers with little computer science
76 background;

77 (b) Use effective practices for professional development;

78 (c) Focus the training on the conceptual foundations of computer
79 science;

80 (d) Reach and support historically underrepresented students in
81 computer science;

82 **(e) Provide teachers with concrete experience with hands-on,**
83 **inquiry-based practices; and**

84 **(f) Accommodate the particular needs of students and teachers**
85 **in each district and school.**

86 **5. The department of elementary and secondary education shall**
87 **promulgate rules to implement the provisions of this section. Any rule**
88 **or portion of a rule, as that term is defined in section 536.010 that is**
89 **created under the authority delegated in this section shall become**
90 **effective only if it complies with and is subject to all of the provisions**
91 **of chapter 536, and, if applicable, section 536.028. This section and**
92 **chapter 536 are nonseverable and if any of the powers vested with the**
93 **general assembly pursuant to chapter 536, to review, to delay the**
94 **effective date, or to disapprove and annul a rule are subsequently held**
95 **unconstitutional, then the grant of rulemaking authority and any rule**
96 **proposed or adopted after August 28, 2018, shall be invalid and void.**

✓

Bill

Copy