# SENATE BILL NOS. 894 & 921

## 99TH GENERAL ASSEMBLY

## 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 two new
2  sections, to be known as sections 161.261 and 170.018, to read as follows:

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

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

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

13     **(1)  The program introduces students to a wide variety of STEM careers and**
14 **technologies, including a curriculum explicitly focused on more than eighty different**
15 **careers and technologies;**

EXPLANATION — Matter enclosed in bold-faced brackets **[thus]** in the above bill is not enacted and is intended to be omitted from the law. Matter in **bold-face** type in the above bill is proposed language.

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

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

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

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

28      **(6)  The program rewards students, in the game format, for accomplishment in**
29  **demonstrating the application of math and language skills in the contexts of the STEM**
30  **careers and technologies;**

31      **(7)  The program automatically produces analytic reports for individual students**
32  **and for classes, including analysis of performance against individual math and language**
33  **skills objectives;**

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

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

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

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

44      **(12)  The program includes web-based professional development for school staff.**

45      **4.   Notwithstanding subsections 2 and 3 of this section, the department of**
46  **elementary and secondary education may choose a third-party nonprofit entity to**
47  **implement the statewide program, solicit proposals, and select a provider as described**
48  **under subsection 3 of this section.**

49      **5. (1) There is hereby created in the state treasury the "STEM Career Awareness**
50  **Program Fund".  The fund shall consist of any appropriations, gifts, bequests, or public**
51  **or private donations to such fund.  The state treasurer shall be custodian of the fund.  In**

52  accordance with sections 30.170 and 30.180, the state treasurer may approve disbursements
53  of public moneys in accordance with distribution requirements and procedures developed
54  by the department of elementary and secondary education.  The fund shall be a dedicated
55  fund and, upon appropriation, moneys in the fund shall be used solely for the
56  administration of this section.
57      **(2)  Notwithstanding the provisions of section 33.080 to the contrary, any moneys**
58  remaining in the fund at the end of the biennium shall not revert to the credit of the
59  general revenue fund.
60      **(3)  The state treasurer shall invest moneys in the fund in the same manner as other**
61  funds are invested.  Any interest and moneys earned on such investments shall be credited
62  to the fund.
63      **6.  The department of elementary and secondary education may promulgate all**
64  necessary rules and regulations for the administration of this section.  Any rule or portion
65  of a rule, as that term is defined in section 536.010, that is created under the authority
66  delegated in this section shall become effective only if it complies with and is subject to all
67  of the provisions of chapter 536 and, if applicable, section 536.028.  This section and
68  chapter 536 are nonseverable, and if any of the powers vested with the general assembly
69  pursuant to chapter 536 to review, to delay the effective date, or to disapprove and annul
70  a rule are subsequently held unconstitutional, then the grant of rulemaking authority and
71  any rule proposed or adopted after August 28, 2018, shall be invalid and void.
    **170.018.  1.  (1)  For purposes of this section, "computer science course" means a**
2   course in which students study computers and algorithmic processes, including their
3   principles, their hardware and software designs, their implementation, and their impact
4   on society.
5       **(2)  The department of elementary and secondary education shall, before July 1,**
6   2019, develop a high school graduation policy that allows a student to fulfill one unit of
7   academic credit with a district-approved computer science course meeting the standards
8   of subsection 2 of this section for any mathematics, science, or practical arts unit required
9   for high school graduation.  The policy shall require that all students have either taken all
10  courses that require end-of-course examinations or are on track to take all courses that
11  require end-of-course examinations under the Missouri school improvement program in
12  order to receive credit toward high school graduation under this subsection.
13      **(3)  A school district shall communicate to students electing to use a computer**
14  science course for a mathematics unit that some institutions of higher education may
15  require four units of academic credit in mathematics for college admission.  The parent,
16  guardian, or legal custodian of each student who chooses to take a computer science course

17  **to fulfill a fourth unit of academic credit in mathematics shall sign and submit to the school**

18  **district a document containing a statement acknowledging that taking a computer science**

19  **course to fulfill a fourth unit of academic credit in mathematics may have an adverse effect**

20  **on college admission decisions.**

21  **(4)  The department of elementary and secondary education and the coordinating**

22  **board for higher education shall cooperate in developing and implementing academic**

23  **requirements for computer science courses offered in any grade or grades not lower than**

24  **the ninth nor higher than the twelfth grade.**

25  **2. (1) The department of elementary and secondary education shall convene a work**

26  **group to develop and recommend rigorous academic performance standards relating to**

27  **computer science for students in kindergarten and in each grade not higher than the**

28  **twelfth grade.  The work group shall include, but not be limited to, educators providing**

29  **instruction in kindergarten or in any grade not higher than the twelfth grade and**

30  **representatives from the department of elementary and secondary education, the**

31  **department of higher education, business and industry, and institutions of higher**

32  **education.  The department of elementary and secondary education shall develop written**

33  **curriculum frameworks relating to computer science that may be used by school districts.**

34  **The requirements of section 160.514 shall not apply to this section.**

35  **(2)  The state board of education shall adopt and implement academic performance**

36  **standards relating to computer science beginning in the 2019-20 school year.**

37  **3.  Before July 1, 2019, the department of elementary and secondary education shall**

38  **develop a procedure by which any teacher who holds a certificate of license to teach under**

39  **section 168.021 and demonstrates sufficient content knowledge of computer science shall**

40  **receive a special endorsement on his or her license signifying his or her specialized**

41  **knowledge in computer science.**

42  **4. (1)  For purposes of this subsection, "eligible entity" means:**

43  **(a)  A local educational agency, or a consortium of local educational agencies, in the**

44  **state, including charter schools that have declared themselves local educational agencies;**

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

46  **(c)  A nonprofit or private provider of nationally recognized and high-quality**

47  **computer science professional development, as determined by the state board of education.**

48  **(2)  (a)  There is hereby created in the state treasury the "Computer Science**

49  **Education Fund".  The fund shall consist of all moneys that may be appropriated to it by**

50  **the general assembly and any gifts, contributions, grants, or bequests received from private**

51  **or other sources for the purpose of providing teacher professional development programs**

52  **relating to computer science.  The state treasurer shall be custodian of the fund.  In**

53   accordance with sections 30.170 and 30.180, the state treasurer may approve
54   disbursements.  The fund shall be a dedicated fund and, upon appropriation, moneys in
55   the fund shall be used solely for the administration of grants to eligible entities as described
56   in this section.
57         **(b)  Notwithstanding the provisions of section 33.080 to the contrary, any moneys
58   remaining in the fund at the end of the biennium shall not revert to the credit of the
59   general revenue fund.
60         (c)  The state treasurer shall invest moneys in the fund in the same manner as other
61   funds are invested.  Any interest and moneys earned on such investments shall be credited
62   to the fund.
63         (3)  The state board of education shall award grants from the computer science
64   education fund to eligible entities for the purpose of providing teacher professional
65   development programs relating to computer science.  An eligible entity wishing to receive
66   such a grant shall submit an application to the department of elementary and secondary
67   education addressing how the entity plans to:
68         (a)  Reach new and existing teachers with little computer science background;
69         (b)  Use effective practices for professional development;
70         (c)  Focus the training on the conceptual foundations of computer science;
71         (d)  Reach and support historically underrepresented students in computer science;
72         (e)   Provide teachers with concrete experience with hands-on, inquiry-based
73   practices; and
74         (f)  Accommodate the particular needs of students and teachers in each district and
75   school.
76         5.  The department of elementary and secondary education shall promulgate rules
77   to implement the provisions of this section.  Any rule or portion of a rule, as that term is
78   defined in section 536.010, that is created under the authority delegated in this section shall
79   become effective only if it complies with and is subject to all of the provisions of chapter
80   536 and, if applicable, section 536.028.  This section and chapter 536 are nonseverable, and
81   if any of the powers vested with the general assembly pursuant to chapter 536 to review,
82   to delay the effective date, or to disapprove and annul a rule are subsequently held
83   unconstitutional, then the grant of rulemaking authority and any rule proposed or adopted
84   after August 28, 2018, shall be invalid and void.**

✓