

1 HB216
2 197137-2
3 By Representatives Faulkner, Collins, Baker, Fincher,
4 Drummond, Garrett, Gaston, Shiver, Scott, Givan, Drake,
5 Treadaway, McCutcheon and Faust
6 RFD: Education Policy
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8 SYNOPSIS: This bill would phase in the requirement
9 that each public school in the state offer courses
10 in computer science.

11 This bill would provide funding for
12 evidence-based, authentic computer science
13 professional learning for K-12 computer science
14 teachers.

15 This bill would provide for a designated
16 state computer science specialist at the State
17 Department of Education.

18 This bill would provide secondary and
19 postsecondary graduation credit and admissions
20 pathways in computer science for students.

21 This bill would also establish multiple
22 computer science certification pathways for public
23 school teachers, including requirements for
24 institutions of higher education to provide
25 preservice coursework that leads to certification
26 in computer science.

1 A BILL
2 TO BE ENTITLED
3 AN ACT
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5 Relating to public education; to phase in the
6 requirement that each public K-12 school in the state offer
7 courses in computer science; to provide funding for
8 evidence-based, authentic computer science professional
9 learning for K-12 computer science teachers; to provide for a
10 designated state computer science specialist at the State
11 Department of Education; to provide secondary and
12 postsecondary graduation credit and admissions pathways in
13 computer science for students; and would establish multiple
14 computer science certification pathways for public school
15 teachers, including requirements for institutions of higher
16 education to provide preservice coursework that leads to
17 certification in computer science.

18 BE IT ENACTED BY THE LEGISLATURE OF ALABAMA:

19 Section 1. For the purposes of this act, the
20 following terms shall have the following meanings:

21 (1) BOARD. The State Board of Education.

22 (2) COMPUTER SCIENCE. The study of computers and
23 algorithmic processes, including their principles, their
24 hardware and software designs, their implementation, and their
25 impact on society. Content should focus on teaching students
26 how to create new technologies, not simply how to use
27 technology.

1 (3) COMPUTER SCIENCE COURSES AND CONTENT. Courses
2 that teach computer science either as a standalone course
3 implementation in middle and high schools, or, for elementary
4 school, integrated into other content areas.

5 (4) DEPARTMENT. The State Department of Education.

6 (5) ELEMENTARY SCHOOL. Includes grades kindergarten
7 to six, inclusive.

8 (6) HIGH SCHOOL. Includes grades nine to 12,
9 inclusive.

10 (7) HIGH QUALITY PROFESSIONAL LEARNING. Professional
11 development activities that satisfy all of the following:

12 a. Clarify the conceptual foundations of computer
13 science.

14 b. Teach research-based practices, including
15 hands-on and inquiry-based learning.

16 c. Are intended for existing teachers, with or
17 without previous exposure to computer science.

18 (8) HIGH QUALITY PROFESSIONAL LEARNING PROVIDERS.
19 Institutions of higher education, nonprofits, or private
20 entities that have successfully designed, implemented, and
21 scaled high quality, evidence-based computer science
22 professional learning for teachers and recommended by the
23 superintendent and approved by the board.

24 (9) MIDDLE SCHOOL. Includes grades seven and eight.

25 (10) PUBLIC SCHOOL. Includes public K-12 elementary
26 schools, middle schools, and high schools.

1 (11) SUPERINTENDENT. The State Superintendent of
2 Education.

3 Section 2. (a) (1) Beginning in the 2020-2021 school
4 year, each public high school shall offer at least one
5 authentic computer science course from a department approved
6 list.

7 (2) Beginning in the 2021-2022 school year, each
8 public middle school shall offer instruction in middle school
9 computer science courses approved by the department.

10 (3) Beginning in the 2022-2023 school year, each
11 public elementary school shall offer instruction on the basics
12 of computer science and computational thinking.

13 (b) A computer science course or instruction in
14 computer science offered by a public school shall satisfy all
15 of the following:

16 (1) Be of high quality, as defined by the
17 department.

18 (2) Meet or exceed the standards and curriculum
19 requirements, as they relate to authentic computer science,
20 established by the board in the state course of study for
21 digital literacy and computer science pursuant to Section
22 16-35-4, Code of Alabama 1975, and be on the approved list of
23 computer science courses.

24 (c) A computer science course offered by a public
25 high school should be offered through an in-person setting and
26 shall be offered as a virtual or distance learning course
27 option only when an in-person classroom setting is not

1 practicable. A rationale for using the virtual or distance
2 learning option shall be included in the annual report.

3 (d) The curricula that is used for the computer
4 science course shall be open platform and available across
5 multiple computing devices, such as available within a web
6 browser.

7 (e) The enforcement of this section shall comply
8 with Section 16-1-11.1, Code of Alabama 1975.

9 Section 3. (a) Subject to appropriation from the
10 Legislature, funds shall be appropriated to the department and
11 the department shall allocate those funds to eligible entities
12 to develop and implement teacher professional learning
13 programs for the required computer science courses and
14 content.

15 (b) For the purposes of this section, eligible
16 entities shall include high quality computer science
17 professional learning providers, including institutions of
18 higher education physically located in the state, nonprofits
19 dedicated to providing high quality computer science
20 professional learning as determined by the superintendent, or
21 private entities.

22 (c) For the purposes of this section, eligible
23 entities do not include a local education agency or a
24 consortium of local education agencies.

25 (d) Eligible uses of funds appropriated for computer
26 science professional learning are as follows:

1 (1) High quality professional learning for K-12
2 computer science content, stipends for attending professional
3 learning, traveling to professional learning activities, and
4 participating in mentoring and coaching.

5 (2) Credentialing for K-12 computer science
6 teachers, including course-specific permits and computer
7 science endorsements pursuant to Section 6.

8 (3) Creation of resources to support implementing
9 computer science activities in the classroom. These resources
10 may be developed during computer science professional learning
11 workshops or at other times outside of the teacher
12 instructional day.

13 (4) Recruiting students to enroll in high quality
14 computer science coursework.

15 (5) Software. Funding may not be used for hardware
16 and equipment.

17 (e) As a condition of receiving computer science
18 professional learning funds, eligible entities shall submit an
19 application to the department. The application, at a minimum,
20 shall address how the entity plans to do all of the following:

21 (1) Reach inservice or preservice, or both, teachers
22 with little to no computer science background who are
23 presently teaching, or interested in teaching, high quality
24 computer science courses in a public school.

25 (2) Use research-based or evidence-based practices
26 for high quality professional learning.

1 (3) Focus professional learning on the conceptual
2 foundations of computer science.

3 (4) Reach and support teachers who serve students
4 who are underrepresented in computer science.

5 (5) Provide teachers experience with hands-on,
6 inquiry-based practices for teaching computer science.

7 (6) Accommodate students with special needs in each
8 district and school.

9 (7) Ensure that participating schools begin offering
10 the courses or content, or both, within the same or no later
11 than the next school year following the teacher receiving the
12 professional learning.

13 (8) Confirm that the proposed curriculum is
14 available on multiple platforms, so that teachers and students
15 may access and use the curriculum on multiple devices.

16 (f) The department shall prioritize the following
17 applications, in no specific order of preference:

18 (1) Institutions of higher education that are
19 physically located in the state that are working with
20 providers of high quality computer science professional
21 learning.

22 (2) Proposals that describe strategies to enroll
23 teachers in high quality computer science professional
24 learning activities that will lead to more females and
25 underrepresented minorities, students with significant
26 economic barriers to academic success, students with

1 disabilities, and English language learners enrolling in high
2 quality computer science courses in public schools.

3 (3) Proposals from rural or urban areas with a low
4 concentration of K-12 computer science offerings.

5 (4) Nonprofits dedicated to providing high quality
6 computer science professional learning or private entities
7 working in partnership with local education agencies.

8 (g) Any monies appropriated to the department not
9 disbursed by the end of the fiscal year shall not revert to
10 the credit of the general revenue, and shall not be used for
11 purposes not described in this section.

12 (h) Metrics.

13 (1) Not later than September 30 of each year,
14 eligible entities receiving funds appropriated for computer
15 science professional learning shall annually submit a computer
16 science expansion data report to the department. The report,
17 at a minimum, shall include all of the following information:

18 a. The number of teachers trained.

19 b. The number of students enrolled in high quality
20 computer science courses taught by a teacher trained in a high
21 quality professional activity conducted during that year.

22 c. The number of students offered a computer science
23 course through a virtual or distance learning course option
24 and assurances that these settings shall continue to work
25 towards in-person course options where students are taught by
26 a trained teacher. A rationale for using the virtual or

1 distance learning option shall be included in the annual
2 report.

3 d. The aggregate gender, racial, and socioeconomic
4 diversity of the students described in paragraph b.

5 e. The number of and diversity of students with a
6 score of three or above on advanced placement examinations for
7 high school advanced placement computer science courses, and
8 the number of diverse students who earn postsecondary graduate
9 credit for completing a dual enrollment course provided by an
10 institution of higher education physically located in the
11 state while that student is enrolled in high school. This
12 student data shall be provided annually in the report in the
13 year following the academic year of course completion.

14 f. The number of teachers that began implementing
15 computer science as a result of attending a high quality
16 computer science professional learning activity that year
17 versus the number of teachers attending a high quality
18 computer science professional learning activity who were
19 already teaching high quality computer science courses at the
20 middle or high school level.

21 (2) On or before December 1 of each year, the
22 department shall post all computer science expansion data
23 reports received on the website of the department.

24 (3) On or before June 30, 2020, the department shall
25 establish the position of state computer science specialist
26 and shall designate an individual to serve in that position.
27 Among other duties, the specialist shall review the reports to

1 ensure the requirements delineated in paragraphs a. to f.,
2 inclusive, of subdivision (1), are satisfied.

3 Section 4. (a) Before the beginning of the 2020-2021
4 school year, the department shall develop and the board shall
5 approve, pursuant to Chapter 35 of Title 16, Code of Alabama
6 1975, a rigorous K-12 course of study for digital literacy and
7 computer science and shall consider existing computer science
8 frameworks and content standards including, but not limited
9 to, the K-12 computer science framework and the K-12 computer
10 science content standards developed by the Computer Science
11 Teachers Association.

12 (b) To ensure continuity in early learning, the
13 department and the Department of Early Childhood Education may
14 form a committee to create developmentally appropriate
15 technology content standards for prekindergarten students.

16 Section 5. (a) The Governor shall establish a
17 computer science education task force to develop a state
18 strategic plan for expanding computer science education in the
19 public schools in Alabama.

20 (b) The membership of the task force shall include
21 all of the following:

22 (1) One member of the House of Representatives, as
23 appointed by the Speaker of the House, and one member of the
24 Senate, as appointed by the President Pro Tempore of the
25 Senate.

26 (2) A representative of the board, as appointed by
27 the board.

1 (3) The state computer science specialist and two
2 additional representatives of the department, as appointed by
3 the superintendent.

4 (4) A representative of the Department of Early
5 Childhood Education, as appointed by the director.

6 (5) A representative of the Alabama Community
7 College System, as appointed by the board of trustees of the
8 system.

9 (6) A representative of the Alabama Workforce
10 Council, as appointed by the council.

11 (7) A representative of the Alabama Education
12 Association, as appointed by the executive director.

13 (8) A representative of the Alabama Association of
14 School Boards, as appointed by the executive director.

15 (9) A representative of the School Superintendents
16 of Alabama, as appointed by the executive director.

17 (10) A representative of the Council for Leaders in
18 Alabama Schools, as appointed by the board of directors.

19 (11) A representative of A Plus Education
20 Partnership, as appointed by the board of directors.

21 (12) A representative of the Business Education
22 Alliance of Alabama, as appointed by the president.

23 (13) The education policy advisor to the Governor.

24 (14) A representative of the Alabama Workforce
25 Development Board, as appointed by the board.

1 (15) Two geographically and sector diverse industry
2 representatives, including individuals with software and
3 computer science specific focus, as appointed by the Governor.

4 (16) A representative of Alabama historically black
5 colleges and universities, as appointed by the Lieutenant
6 Governor.

7 (17) Two representatives from four-year colleges and
8 universities, as appointed by the Executive Director of the
9 Alabama Commission on Higher Education.

10 (18) One teacher leader from a statewide association
11 representing computer science teachers and three computer
12 science teachers with representation from the grade bands of
13 high school, middle school, and elementary school, as
14 appointed by the superintendent.

15 (19) Two curriculum and professional development
16 providers, as appointed by the superintendent.

17 (20) Other representatives as determined by the
18 Governor.

19 (c) All appointing authorities shall coordinate
20 their appointments so that diversity of gender, race, and
21 geographical areas is reflective of the makeup of this state.
22 Members of the task force shall serve without compensation.
23 The expenses of members who are legislators may be paid out of
24 any funds appropriated to the Legislature or out of any funds
25 appropriated for joint interim committees of the Legislature,
26 but in the amounts as if they were performing legislative
27 duties.

1 (d) The superintendent, in consultation with the
2 task force, shall develop a state strategic plan for a
3 statewide computer science education initiative including, but
4 not limited to, all of the following:

5 (1) A statement of purpose that describes the
6 objectives or goals the department desires to accomplish by
7 implementing a computer science education initiative, the
8 strategies by which those goals shall be achieved, and a
9 timeline for achieving those goals.

10 (2) A summary of the current state landscape for
11 K-12 computer science education, including metrics on the
12 diversity of students taking those courses.

13 (3) A plan for expanding computer science education
14 opportunities to every school in the state within five years
15 as provided in Section 2.

16 (4) A plan for the development of rigorous standards
17 and curriculum guidelines for K-12 computer science, including
18 ways to incorporate computer science into existing standards
19 at the elementary school level, as appropriate.

20 (5) A plan for defining high quality computer
21 science professional learning for preservice teachers and
22 inservice teachers seeking a computer science endorsement or
23 course specific permit, as provided in Section 6.

24 (6) An ongoing evaluation process of the computer
25 science initiative that is overseen by the superintendent in
26 consultation with the task force.

1 (7) Proposed rules that incorporate the principles
2 of the state strategic plan for computer science education
3 into the public education system of the state.

4 (8) A plan to ensure long term sustainability of the
5 computer science initiative.

6 (9) A plan for the task force to annually review and
7 make recommendations to the superintendent for approved
8 computer science professional learning to satisfy requirements
9 for the computer science permit.

10 (e) On or before December 31, 2019, the
11 superintendent, after consultation with the task force, shall
12 present the state strategic plan for computer science
13 education to the Chair of the House Education Policy Committee
14 and the Chair of the Senate Education Policy Committee.

15 (f) The task force shall perpetuate after the
16 deadline provided in subsection (e), at the pleasure of the
17 Governor, for the purposes of carrying out subdivision (6) of
18 subsection (c). Members of the task force shall serve at the
19 pleasure of the Governor after the deadline provided in
20 subsection (e).

21 (g) The superintendent shall implement this act
22 within the department, including the development and
23 implementation of the state strategic plan for computer
24 science education.

25 Section 6. Before June 30, 2020, the department
26 shall create all of the following:

1 (1) A secondary computer science certification
2 pathway for preservice teachers.

3 (2) An endorsement in computer science for all
4 teachers who hold a valid Professional Educator Certificate
5 and demonstrate sufficient content knowledge in the course
6 material as determined by the department. Upon passing the
7 Praxis, this certification does not have a two-year time and
8 service requirement to begin teaching.

9 (3) A course specific permit for teachers without a
10 secondary computer science certification or endorsement, who
11 hold a valid Professional Educator Certificate. The course
12 specific permit shall be issued upon the completion of a
13 nationally recognized professional learning course that is
14 linked to a recognized high quality middle school or high
15 school computer science course or an approved preservice
16 computer science pathway offered at an institution of higher
17 education for a specific permitted course. The state computer
18 science specialist shall maintain a vetted list of supported
19 professional learning opportunities aligned to K-12 Computer
20 Science Teachers Association (CSTA) standards and advanced
21 placement computer science course and exam descriptions in
22 computer science that are linked to recognized high quality
23 computer science courses offered at the middle school and high
24 school levels. The course specific permits shall only be
25 issued to teach a course on the vetted list by a teacher who
26 has completed professional learning courses linked to the

1 vetted list, as determined by the state computer science
2 specialist.

3 (4) Career and technical education certificate
4 options shall remain in place to provide business, industry,
5 and other postsecondary noneducation certified graduates with
6 the opportunity to teach computer science courses.

7 Section 7. (a) Before June 30, 2020, and in
8 accordance with Section 16-35-4, Code of Alabama 1975, the
9 department shall identify approved computer science courses
10 that may fulfill one unit of academic credit for any
11 mathematics or science course for high school graduation.

12 (b) Beginning with the graduating class of 2021, a
13 computer science course successfully completed under
14 subsection (a) shall be equivalent to either of the following:

15 (1) One mathematics course credit.

16 (2) One science course credit.

17 Section 8. (a) Subject to appropriations from the
18 Legislature, the Alabama Commission on Higher Education shall
19 create a scholarship program for preservice teachers seeking a
20 computer science certification option as provided in Section
21 6, to take an authentic computer science course. A preservice
22 teacher enrolled in a state accredited institution of higher
23 education who is in the process of earning a Class A or Class
24 B professional teaching certification in any field may receive
25 a scholarship after successful completion of one course in
26 computer science. The amount and duration of the scholarship

1 shall be determined by the Alabama Commission on Higher
2 Education.

3 (b) The Alabama Commission on Higher Education,
4 subject to appropriations from the Legislature, shall grant
5 funds to eligible preservice education programs in Alabama to
6 develop and implement pathways in computer science education.
7 The pathways shall prepare an enrolled preservice teacher to
8 add a certification to teach computer science education to his
9 or her intended major and areas of certification. The pathways
10 shall be open to preservice teachers at the secondary level.

11 Section 9. This act shall become effective on the
12 first day of the third month following its passage and
13 approval by the Governor, or its otherwise becoming law.