

**House File 2540 - Introduced**

HOUSE FILE 2540  
BY COMMITTEE ON EDUCATION

(SUCCESSOR TO HSB 610)

**A BILL FOR**

1 An Act relating to computer science and artificial intelligence  
2 education, including high school curricula and graduation  
3 requirements, and practitioner preparation programs, and  
4 including applicability provisions.

5 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

unofficial

1 Section 1. Section 256.7, subsection 26, paragraph a,  
2 unnumbered paragraph 1, Code 2026, is amended to read as follows:

3 Adopt a core curriculum and adopt rules that establish  
4 high school graduation requirements for all students in school  
5 districts and accredited nonpublic schools that include at a  
6 minimum satisfactory completion of four years of English and  
7 language arts, three years of mathematics, three years of  
8 science, ~~and three years of social studies~~, and, beginning  
9 with students in the 2030-2031 school year graduating class,  
10 one semester of computer science and artificial intelligence,  
11 or the trimester or quarter equivalent, which may include  
12 computer science instruction provided in grade eight pursuant to  
13 section 256.11, subsection 4. One semester, or the trimester  
14 or quarter equivalent, of computer science and artificial  
15 intelligence instruction shall satisfy the graduation requirement  
16 associated with both computer science and artificial intelligence  
17 instruction and one semester, or the trimester or quarter  
18 equivalent, of the graduation requirement associated with either  
19 mathematics or science.

20 Sec. 2. Section 256.7, subsection 26, paragraph a,  
21 subparagraph (4), Code 2026, is amended to read as follows:

22 (4) The rules shall provide for the establishment of  
23 high-quality standards for computer science and artificial  
24 intelligence education taught by elementary, middle, and high  
25 schools, in accordance with the goal established under section  
26 284.6A, subsection 1, setting a foundation for personal and  
27 professional success in a high-technology, knowledge-based Iowa  
28 economy. The high-quality standards for computer science and  
29 artificial intelligence education must require that all levels  
30 and grades of computer science and artificial intelligence  
31 instruction include instruction related to the fundamental  
32 concepts of evolving computer science technologies and artificial  
33 intelligence, including instruction that explains what artificial  
34 intelligence is, how artificial intelligence works, and the  
35 societal and ethical impacts of artificial intelligence.

1     Sec. 3. Section 256.9, subsection 61, Code 2026, is amended  
2 to read as follows:

3     61. Develop and implement a statewide kindergarten through  
4 grade twelve computer science and artificial intelligence  
5 instruction plan by ~~July 1, 2022~~.

6     Sec. 4. Section 256.9, Code 2026, is amended by adding the  
7 following new subsections:

8     NEW SUBSECTION. 80. On or before June 30, 2027, publish on  
9 the department's internet site a list of computer science and  
10 artificial intelligence courses that satisfy the rules adopted  
11 by the state board pursuant to section 256.7, subsection 32,  
12 paragraph "c", and that a school district or accredited nonpublic  
13 school may use to implement the graduation requirement described  
14 in section 256.11, subsection 5, paragraph "l", subparagraph (2).  
15 The list must include the names of the computer science and  
16 artificial intelligence courses and the course codes associated  
17 with each computer science and artificial intelligence course.

18     NEW SUBSECTION. 81. Publish on the department's internet  
19 site all of the information submitted to the department by school  
20 districts pursuant to section 256.11, subsection 5, paragraph  
21 "l", subparagraph (3).

22     NEW SUBSECTION. 82. On or before June 30, 2027, create and  
23 publish on the department's internet site a plan to expand  
24 statewide computer science and artificial intelligence teacher  
25 capacity to support implementation of the graduation requirement  
26 described in section 256.11, subsection 5, paragraph "l",  
27 subparagraph (2). The plan must specifically address targeted  
28 support for schools with a total enrollment of less than five  
29 hundred students in grades nine through twelve. When creating  
30 the plan, the department shall invite input from representatives  
31 of kindergarten through grade twelve schools, including students,  
32 computer science teacher professional development providers,  
33 industries that employ technology workers, and higher education  
34 institutions that offer computer science teacher preparation  
35 pathways.

1     Sec. 5. Section 256.11, subsection 3, paragraph b, Code 2026,  
2 is amended to read as follows:

3     b. Computer science and artificial intelligence instruction  
4 incorporating the standards established under section 256.7,  
5 subsection 26, paragraph "a", subparagraph (4), shall be offered  
6 in at least one grade level ~~commencing with the school year~~  
7 ~~beginning July 1, 2023.~~

8     Sec. 6. Section 256.11, subsection 4, paragraph b, Code 2026,  
9 is amended to read as follows:

10    b. Computer science and artificial intelligence instruction  
11 incorporating the standards established under section 256.7,  
12 subsection 26, paragraph "a", subparagraph (4), shall be offered  
13 in at least one grade level ~~commencing with the school year~~  
14 ~~beginning July 1, 2023. Career exploration and development~~  
15 ~~shall be designed so that students are appropriately prepared to~~  
16 ~~create an individual career and academic plan pursuant to section~~  
17 ~~279.61, incorporate foundational career and technical education~~  
18 ~~concepts aligned with the six career and technical education~~  
19 ~~service areas as defined in subsection 5, paragraph "h",~~  
20 ~~incorporate relevant twenty-first century skills to facilitate~~  
21 ~~career readiness, and introduce students to career opportunities~~  
22 ~~within the local community and across this state.~~

23    Sec. 7. Section 256.11, subsection 4, Code 2026, is amended  
24 by adding the following new paragraph:

25    NEW PARAGRAPH. 0c. Career exploration and development shall  
26 be designed so that students are appropriately prepared to create  
27 an individual career and academic plan pursuant to section  
28 279.61, incorporate foundational career and technical education  
29 concepts aligned with the six career and technical education  
30 service areas as defined in subsection 5, paragraph "h",  
31 incorporate relevant twenty-first century skills to facilitate  
32 career readiness, and introduce students to career opportunities  
33 within the local community and across this state.

34    Sec. 8. Section 256.11, subsection 5, paragraph a, Code 2026,  
35 is amended by adding the following new subparagraph:

1 NEW SUBPARAGRAPH. (3) The five units of science may include  
2 not more than one unit of instruction related to computer science  
3 and artificial intelligence.

4 Sec. 9. Section 256.11, subsection 5, paragraphs e and l,  
5 Code 2026, are amended to read as follows:

6 e. Two additional units of mathematics.

7 (1) The two additional units of mathematics may include  
8 instruction related to applied sciences, technology, engineering,  
9 or manufacturing, including transportation, distribution,  
10 logistics, architecture, and construction, which may be offered  
11 and taught through dedicated units of coursework or through units  
12 of coursework that also meet the requirements of the coursework  
13 required under paragraph "h", subparagraph (1), subparagraph  
14 division (c). ~~The state board shall adopt rules pursuant to~~  
15 ~~chapter 17A to implement this paragraph.~~

16 (2) The two additional units of mathematics may include not  
17 more than one unit of instruction related to computer science and  
18 artificial intelligence.

19 (3) The state board shall adopt rules pursuant to chapter 17A  
20 to implement this paragraph.

21 l. (1) One-half unit of computer science commencing with the  
22 school year beginning July 1, 2022 and artificial intelligence.  
23 The one-half unit of computer science and artificial intelligence  
24 shall incorporate the standards established pursuant to section  
25 256.7, subsection 26, paragraph "a", subparagraph (4), and may  
26 be offered online in accordance with rules adopted pursuant to  
27 section 256.7, subsection 32, paragraph "a". The one-half unit  
28 of computer science and artificial intelligence shall satisfy all  
29 of the following requirements:

30 (a) Be of high quality.

31 (b) Meet or exceed the curriculum standards and requirements  
32 established by the state board.

33 (c) Be offered and taught in a traditional classroom setting;  
34 provided, however, that if a traditional classroom setting is not  
35 feasible, the one-half unit of computer science and artificial

1 intelligence may be offered and taught in any of the following  
2 ways:

3 (i) Through a combination of instruction that is delivered in  
4 a traditional classroom setting and instruction that is delivered  
5 primarily over the internet.

6 (ii) Through instruction that is delivered primarily over the  
7 internet in accordance with rules adopted by the state board  
8 pursuant to section 256.7, subsection 32, paragraph "a", and is  
9 tailored to meet the needs of each participating student.

10 (2) (a) All students, beginning with students in the  
11 2030-2031 school year graduating class, shall complete one-half  
12 unit of computer science and artificial intelligence as a  
13 condition of graduation, which shall incorporate the standards  
14 established pursuant to section 256.7, subsection 26, paragraph  
15 "a", subparagraph (4), and which may include computer science  
16 instruction provided in grade eight pursuant to section 256.11,  
17 subsection 4. The condition of graduation shall not apply to  
18 a student who enrolls in a school district or an accredited  
19 nonpublic school in grade twelve immediately after being enrolled  
20 in a school located outside of this state that does not  
21 impose a comparable computer science and artificial intelligence  
22 instruction requirement.

23 (b) (i) On or before July 1, 2030, a school district or  
24 accredited nonpublic school may apply to the department of  
25 education for a one-time waiver of the implementation of the  
26 condition of graduation described in this subparagraph. The  
27 waiver shall be for a period not longer than one school year.

28 (ii) The state board shall adopt rules pursuant to chapter  
29 17A establishing standards for the submission of applications  
30 for waivers of the implementation of the condition of graduation  
31 described in this subparagraph and the department's consideration  
32 and approval of waivers. The rules must require that the  
33 department of education may only approve an application for a  
34 waiver submitted pursuant to subparagraph subdivision (i) if  
35 the school district or accredited nonpublic school applying

1 for the waiver demonstrates to the department that the school  
2 district or accredited nonpublic school made a reasonable attempt  
3 to implement the condition of graduation described in this  
4 subparagraph.

5 (iii) This subparagraph division is repealed July 1, 2031.

6 (3) Each school district shall report annually to the  
7 department all of the following:

8 (a) The course names and course codes associated with all  
9 computer science and artificial intelligence courses offered and  
10 taught in the school district pursuant to this paragraph and, to  
11 the extent such information is available, a description of the  
12 format in which each course is offered and taught.

13 (b) The number of teachers employed by the school  
14 district who teach computer science and artificial intelligence  
15 instruction, sortable by the endorsements and authorizations  
16 held by each teacher and the highest academic degree attained  
17 by each teacher. The report shall not include any personally  
18 identifiable information related to the teachers employed by  
19 the school district who teach computer science and artificial  
20 intelligence instruction.

21 (c) The number of students enrolled in a computer science and  
22 artificial intelligence course offered and taught by the school  
23 district pursuant to this paragraph, sortable by the grade level  
24 of each student. The report shall not include any personally  
25 identifiable information related to the students enrolled in a  
26 computer science and artificial intelligence course offered and  
27 taught by the school district.

28 Sec. 10. Section 256.11, subsection 5, paragraph h, Code  
29 2026, is amended by adding the following new subparagraph:

30 NEW SUBPARAGRAPH. (04) Units of instruction provided under  
31 subparagraph (1), subparagraph division (b) or (c), may include  
32 up to one unit of instruction related to computer science  
33 and artificial intelligence, if the teacher providing such  
34 instruction has either an initial career and technical education  
35 authorization issued by the board of educational examiners or a

1 career and technical education authorization issued by the board  
2 of educational examiners.

3 Sec. 11. Section 256.11, subsection 17, paragraph a,  
4 subparagraph (2), Code 2026, is amended to read as follows:

5 (2) If a school district or accredited nonpublic school  
6 meets the requirements of subparagraph (1), subparagraph division  
7 (a) or (b), the school district or accredited nonpublic school  
8 may exceed the two-subject limitation specified in subparagraph  
9 (1), unnumbered paragraph 1, for the purpose of providing world  
10 language, personal finance literacy, and computer science and  
11 artificial intelligence coursework online in accordance with  
12 paragraph "c".

13 Sec. 12. Section 256.13, Code 2026, is amended to read as  
14 follows:

15 **256.13 Nonresident pupils.**

16 The boards of directors of two or more school districts may  
17 by agreement provide for attendance of pupils residing in one  
18 district in the schools of another district for the purpose of  
19 taking courses not offered in the district of their residence,  
20 including computer science and artificial intelligence courses  
21 described in section 256.11, subsection 5, paragraph "l". The  
22 boards may also provide by agreement that the districts will  
23 combine their enrollments for one or more grades. Courses  
24 and grades made available to students in this manner shall be  
25 considered as complying with any standards or laws requiring the  
26 offering of such courses and grades. The boards of directors of  
27 districts entering into such agreements may provide for sharing  
28 the costs and expenses of the courses. If the agreement provides  
29 for whole grade sharing, the costs and expenses shall be paid as  
30 provided in sections 282.10 through 282.12.

31 Sec. 13. Section 256.16, subsection 1, Code 2026, is amended  
32 by adding the following new paragraph:

33 NEW PARAGRAPH. p. Include preparation in computer science,  
34 artificial intelligence, and computational thinking that is  
35 appropriate to the grade level and subject area in which

1 the student who is enrolled in the practitioner preparation  
2 program will teach. A higher education institution providing  
3 practitioner preparation may satisfy this requirement by  
4 requiring a student who is enrolled in the practitioner  
5 preparation program to complete a dedicated course or module, or  
6 by integrating such preparation into the existing practitioner  
7 preparation program.

8 Sec. 14. Section 256.146, subsection 19, Code 2026, is  
9 amended to read as follows:

10 19. Adopt rules pursuant to chapter 17A establishing  
11 endorsements and authorizations for computer science and  
12 artificial intelligence instruction, including. The rules  
13 shall include traditional and nontraditional pathways for  
14 obtaining such endorsements or authorizations, including through  
15 instruction that is delivered primarily over the internet that  
16 may be used to demonstrate competence in computer science and  
17 artificial intelligence instruction for teachers under an initial  
18 or conditional license.

19 Sec. 15. Section 262.9, Code 2026, is amended by adding the  
20 following new subsection:

21 NEW SUBSECTION. 43. Develop, in consultation with the  
22 institutions of higher education governed by the board,  
23 guidance related to how a higher education institution providing  
24 practitioner preparation can best incorporate preparation related  
25 to computer science, artificial intelligence, and computational  
26 thinking into the approved practitioner preparation program, as  
27 required under section 256.16, subsection 1, paragraph "p", and  
28 distribute such guidance to each higher education institution  
29 providing practitioner preparation.

30 Sec. 16. Section 280.3, subsection 3, Code 2026, is amended  
31 to read as follows:

32 3. The board of directors of each public school district and  
33 the authorities in charge of each nonpublic school shall develop  
34 and implement a kindergarten through grade twelve computer  
35 science and artificial intelligence plan by July 1, 2022, which

1 that incorporates the standards established under section 256.7,  
2 subsection 26, paragraph "a", subparagraph (4), and the minimum  
3 educational standards relating to computer science and artificial  
4 intelligence contained in section 256.11.

5 Sec. 17. Section 284.6A, subsection 1, paragraphs a and b,  
6 Code 2026, are amended to read as follows:

7 a. That instruction in high-quality computer science and  
8 artificial intelligence for elementary, middle school, and high  
9 school students establishes a foundation for personal and  
10 professional success in a high-technology, knowledge-based Iowa  
11 economy.

12 b. It is the goal of the general assembly that by ~~July~~  
13 ~~1, 2019,~~ each accredited high school offer at least one  
14 high-quality computer science and artificial intelligence course,  
15 each accredited middle school offer instruction in exploratory  
16 computer science and artificial intelligence, and each accredited  
17 elementary school offer instruction in the basics of computer  
18 science and artificial intelligence.

19 Sec. 18. Section 284.6A, subsection 1, Code 2026, is amended  
20 by adding the following new paragraph:

21 NEW PARAGRAPH. 0c. In order to provide students with the  
22 competencies to compete in a twenty-first century workforce,  
23 develop skills that translate into high-wage jobs, develop  
24 problem solving and critical thinking skills, and encourage  
25 the creation and retention of new, high-wage jobs in this  
26 state, all high school students enrolled in school districts or  
27 accredited nonpublic schools, beginning with the 2030-2031 school  
28 year graduating class, students should complete one semester of  
29 computer science and artificial intelligence as a condition of  
30 graduation as required by section 256.7, subsection 26, paragraph  
31 "a".

32 Sec. 19. Section 284.6A, subsection 2, paragraphs a and b,  
33 Code 2026, are amended to read as follows:

34 a. A school district or accredited nonpublic school, or  
35 a collaborative of one or more school districts, accredited

1 nonpublic schools, and area education agencies, may apply to  
2 the department, in the manner prescribed by the department,  
3 to receive moneys from the fund to provide proven professional  
4 development activities for Iowa teachers in the area of computer  
5 science and artificial intelligence education.

6 b. A school district or accredited nonpublic school may apply  
7 to the department, in the manner prescribed by the department,  
8 to receive moneys from the fund to provide tuition reimbursement  
9 for Iowa teachers, including Iowa teachers under an initial  
10 or conditional license, seeking endorsements or authorizations  
11 for computer science and artificial intelligence under section  
12 256.146, subsection 19.

13 Sec. 20. STATE MANDATE FUNDING SPECIFIED. In accordance with  
14 section 25B.2, subsection 3, the state cost of requiring  
15 compliance with any state mandate included in this Act shall  
16 be paid by a school district from state school foundation aid  
17 received by the school district under section 257.16, and from  
18 any grants received under the computer science professional  
19 development fund established pursuant to section 284.6A. This  
20 specification of the payment of the state cost shall be deemed  
21 to meet all of the state funding-related requirements of section  
22 25B.2, subsection 3, and no additional state funding shall  
23 be necessary for the full implementation of this Act by and  
24 enforcement of this Act against all affected school districts.

25 Sec. 21. APPLICABILITY. The following applies to students  
26 admitted to an approved practitioner preparation program on or  
27 after July 1, 2028:

28 The section of this Act amending section 256.16.

29 EXPLANATION

30 The inclusion of this explanation does not constitute agreement with  
31 the explanation's substance by the members of the general assembly.

32 This bill relates to computer science and artificial  
33 intelligence education, including high school curricula and  
34 graduation requirements and practitioner preparation programs.

35 Current law provides that the graduation requirements

1 applicable to students enrolled in school districts and  
2 accredited nonpublic schools shall include, at a minimum,  
3 satisfactory completion of four years of English and language  
4 arts, three years of mathematics, three years of science,  
5 and three years of social studies. The bill provides that  
6 such graduation requirements shall also include, beginning  
7 with students in the 2030-2031 school year graduating class,  
8 satisfactory completion of one semester of computer science and  
9 artificial intelligence, or the trimester or quarter equivalent,  
10 which may include computer science and artificial intelligence  
11 instruction provided in grade eight. The bill also provides that  
12 one semester, or the trimester or quarter equivalent, of computer  
13 science and artificial intelligence instruction satisfies the  
14 graduation requirement associated with both computer science and  
15 artificial intelligence instruction and one semester, or the  
16 trimester or quarter equivalent, of the graduation requirement  
17 associated with either mathematics or science. Current law  
18 also requires that the graduation requirements provide for the  
19 establishment of high-quality standards for computer science  
20 education taught by elementary, middle, and high schools. The  
21 bill provides that these standards must require that all levels  
22 and grades of computer science and artificial intelligence  
23 instruction include instruction related to the fundamental  
24 concepts of evolving computer science technologies and artificial  
25 intelligence, including instruction that explains what artificial  
26 intelligence is, how artificial intelligence works, and the  
27 societal and ethical impacts of artificial intelligence.

28 The bill provides that the condition of graduation shall not  
29 apply to a student who enrolls in a school district or an  
30 accredited nonpublic school in grade 12 immediately after being  
31 enrolled in a school located outside of this state that does not  
32 impose a comparable computer science and artificial intelligence  
33 instruction requirement. The bill authorizes school districts  
34 and accredited nonpublic schools to apply to DE for a one-time  
35 waiver of the implementation of the graduation requirement.

1 The bill requires the state board of education to adopt rules  
2 establishing standards for the submission of applications for  
3 waivers of the implementation of the condition of graduation and  
4 the department of education's (DE) consideration and approval of  
5 waivers.

6 The bill requires the director of DE to publish on DE's  
7 internet site, on or before June 30, 2027, a list of computer  
8 science and artificial intelligence courses that satisfy the  
9 rules adopted by the state board and that a school district or  
10 accredited nonpublic school may use to implement the graduation  
11 requirement. Additionally, the director is required to create  
12 and publish on DE's internet site, on or before June 30, 2027,  
13 a plan to expand statewide computer science and artificial  
14 intelligence teacher capacity to support implementation of the  
15 graduation requirement. The plan must specifically address  
16 targeted support for schools with a total enrollment of less than  
17 500 students in grades 9 through 12.

18 Current law requires school districts and accredited nonpublic  
19 schools to offer and teach to students enrolled in grades 9  
20 through 12 five units of science and two additional units of  
21 mathematics. The bill provides that the five units of science  
22 may include not more than one unit of instruction related  
23 to computer science and artificial intelligence, and the two  
24 additional units of mathematics may include not more than one  
25 unit of instruction related to computer science and artificial  
26 intelligence.

27 Current law requires school districts and accredited nonpublic  
28 schools to offer and teach to students enrolled in grades 9  
29 through 12 one-half unit of computer science. The bill modifies  
30 provisions related to how the computer science and artificial  
31 intelligence instruction is offered and taught by allowing the  
32 instruction to be offered and taught through blended learning,  
33 or through instruction that is delivered primarily over the  
34 internet, when it is not possible to provide such instruction  
35 in a traditional classroom setting. Current law allows school

1 districts to, by agreement, provide for attendance of pupils  
2 residing in one district in the schools of another district for  
3 the purpose of taking courses not offered in the district of  
4 their residence. The bill provides that such courses may include  
5 computer science and artificial intelligence courses.

6 The bill modifies provisions related to the career and  
7 technical education instruction provided to students enrolled  
8 in grades 9 through 12 to provide that instruction provided  
9 under either the arts, communications, and information systems  
10 or applied sciences, technology, engineering, and manufacturing  
11 service areas may include up to one unit of instruction  
12 related to computer science and artificial intelligence, if the  
13 teacher has either an initial career and technical education  
14 authorization or a career and technical education authorization  
15 issued by the BOEE.

16 The bill requires school districts to report annually to DE  
17 specified information related to computer science and artificial  
18 intelligence courses offered and taught in the school district,  
19 teachers providing computer science and artificial intelligence  
20 instruction, and students involved in computer science and  
21 artificial intelligence courses. DE is required to publish on  
22 DE's internet site all of the information submitted by school  
23 districts pursuant to these provisions.

24 The bill requires each higher education institution providing  
25 practitioner preparation to include preparation in computer  
26 science, artificial intelligence, and computational thinking that  
27 is appropriate to the grade level and subject area in which the  
28 student who is enrolled in the practitioner preparation program  
29 will teach. This requirement applies to students admitted to  
30 an approved practitioner preparation program on or after July  
31 1, 2028. The bill requires the state board of regents, in  
32 consultation with the institutions of higher education governed  
33 by the state board of regents, to develop guidance related to how  
34 a higher education institution providing practitioner preparation  
35 can best incorporate preparation related to computer science,

1 artificial intelligence, and computational thinking into the  
2 approved practitioner preparation program, as required under the  
3 bill's provisions.

4 The bill requires that the rules adopted by the BOEE  
5 establishing nontraditional pathways for obtaining endorsements  
6 and authorizations for computer science and artificial  
7 intelligence instruction also include opportunities to obtain  
8 such endorsements or authorizations through instruction that  
9 is delivered primarily over the internet that may be used  
10 to demonstrate competence in computer science and artificial  
11 intelligence instruction for teachers under an initial or  
12 conditional license.

13 Current law establishes a computer science professional  
14 development incentive fund in the state treasury under the  
15 control of DE. Current law authorizes DE to disburse moneys  
16 contained in the fund to a school district or accredited  
17 nonpublic school to provide tuition reimbursement for Iowa  
18 teachers seeking endorsements or authorizations for computer  
19 science and artificial intelligence from the BOEE. The bill  
20 modifies this provision to allow such tuition reimbursement to  
21 be provided to Iowa teachers under an initial or conditional  
22 license.

23 The bill may include a state mandate as defined in Code  
24 section 25B.3. The bill requires that the state cost of  
25 any state mandate included in the bill be paid by a school  
26 district from state school foundation aid received by the school  
27 district under Code section 257.16, and from any grants received  
28 under the computer science professional development fund. The  
29 specification is deemed to constitute state compliance with any  
30 state mandate funding-related requirements of Code section 25B.2.  
31 The inclusion of this specification is intended to reinstate the  
32 requirement of political subdivisions to comply with any state  
33 mandates included in the bill.

34 The bill makes conforming changes.