

AMENDED IN SENATE JULY 2, 2014
AMENDED IN SENATE JUNE 18, 2014
AMENDED IN ASSEMBLY APRIL 21, 2014
AMENDED IN ASSEMBLY MARCH 25, 2014
CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

ASSEMBLY BILL

No. 2110

**Introduced by Assembly Member Ting
(Coauthors: Assembly Members Ammiano, Brown, Gonzalez, and
Wieckowski)**

February 20, 2014

An act to add Section 51211 to the Education Code, relating to pupil instruction.

LEGISLATIVE COUNSEL'S DIGEST

AB 2110, as amended, Ting. Pupil instruction: computer science.

Existing law requires the Instructional Quality Commission to recommend, and the State Board of Education to adopt, curriculum frameworks, as provided. Existing law defines "curriculum framework" as an outline of the components of a given course of study designed to provide state direction to school districts in the provision of instructional programs. Existing law prohibits the state board from adopting instructional materials until the 2015–16 school year, except as provided.

This bill would require the commission to consider incorporating computer science curriculum content into the mathematics, science, history-social science, and ~~language arts~~ *English language arts/English language development* curriculum frameworks, as it deems appropriate, when those frameworks are next revised. The bill would require

computer science curriculum to focus on foundational concepts in computer science by integrating basic skills in technology with simple ideas about computational thinking, communication, and collaboration, and being responsible citizens in a changing digital world, as specified. The bill would require the commission to consult with classroom teachers and school administrators to ensure the age-appropriateness of the computer science curriculum. If computer science curriculum content is incorporated into the curriculum frameworks at their next revision, the bill would require the Superintendent of Public Instruction to identify and post on the State Department of Education’s Internet Web site professional development resources for teaching computer science curriculum content. The bill would require its provisions to be implemented in a manner that does not result in new duties or programs being imposed on local educational agencies, as specified.

Vote: majority. Appropriation: no. Fiscal committee: yes.
 State-mandated local program: no.

The people of the State of California do enact as follows:

- 1 SECTION 1. Section 51211 is added to the Education Code,
- 2 to read:
- 3 51211. (a) The Instructional Quality Commission shall
- 4 consider incorporating computer science curriculum content into
- 5 the mathematics, science, history-social science, and ~~language arts~~
- 6 *English language arts/English language development* curriculum
- 7 frameworks, as it deems appropriate, when those frameworks are
- 8 next revised. This curriculum shall focus on foundational concepts
- 9 in computer science by integrating basic skills in technology with
- 10 simple ideas about computational thinking, communication, and
- 11 collaboration, and being responsible citizens in a changing digital
- 12 world.
- 13 (b) For purposes of this section, computer science curriculum
- 14 shall be designed to promote an understanding of all of the
- 15 following:
- 16 (1) Computational thinking, including, but not limited to, using
- 17 technology resources to solve age-appropriate problems,
- 18 understanding and using basic steps of algorithmic problem solving
- 19 with computer-free exercises, demonstrating that a string of bits
- 20 can be used to represent alphanumeric information, recognizing
- 21 that software is created to control computer operations, and

1 understanding the connections between computer science and other
2 fields.

3 (2) Collaboration, including, but not limited to, gathering
4 information and communicating electronically, and using
5 age-appropriate technology resources and tools to participate in
6 collaborative problem-solving activities for the purpose of
7 developing solutions or products.

8 (3) Computer practice, including, but not limited to, using
9 age-appropriate technology resources to gather, organize, and
10 manipulate data, using technology tools for individual and
11 collaborative writing, communication, and publishing activities,
12 constructing a set of step-by-step instructions to be acted out, and
13 identifying a wide range of jobs that require knowledge or use of
14 computing.

15 (4) Computers and communication devices, including, but not
16 limited to, demonstrating an appropriate level of proficiency with
17 input and output devices, understanding the pervasiveness of
18 computers in daily life, and identifying factors that distinguish
19 humans from machines.

20 (5) Community, global, and ethical impacts, including, but not
21 limited to, practicing responsible digital citizenship in the use of
22 technology, identifying the social and ethical impacts of technology
23 on personal life and society, and evaluating the accuracy, relevance,
24 and biases of electronic information sources.

25 (c) In implementing this section, the Instructional Quality
26 Commission shall consult with classroom teachers and school
27 administrators to ensure the age-appropriateness of the computer
28 science curriculum.

29 (d) If computer science curriculum content is incorporated into
30 the mathematics, science, history-social science, and ~~language arts~~
31 *English language arts/English language development* curriculum
32 frameworks at their next revision, the Superintendent shall identify
33 and post on the department's Internet Web site professional
34 development resources for teaching computer science curriculum
35 content.

36 (e) This section shall be implemented in a manner that does not
37 result in new duties or programs being imposed on local
38 educational agencies. In that regard, the Legislature finds and
39 declares that this section does not mandate costs to local
40 educational agencies, and that materials used to comply with this

- 1 subdivision shall be part of the normal instructional materials
- 2 purchased by local educational agencies in their normal course of
- 3 business and purchasing cycles.

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