



CODED CORRESPONDENCE

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TO:

All Individuals and Groups Interested in the Activities of
the Commission on Teacher Credentialing

FROM:

Mary Vixie Sandy
Executive Director
Commission on Teacher Credentialing

SUBJECT: Approval of Amendments to Title 5 Regulations Pertaining to the Supplementary Authorization in Computer Science

Summary:

Amendments to Title 5 sections 80057.5 and 80089, 80089.1, and 80089.2 of the California Code of Regulations (CCR) pertaining to the Supplementary Authorization in Computer Science were approved by the Office of Administrative Law and became effective on April 1, 2016. The approved amendments pertain to changing the name of the Supplementary Authorization in Computer Concepts and Applications (CCA) to Computer Science and revising the required content areas of study educators must complete to obtain the Supplementary Authorization in Computer Science.

The approved amendments also include updated requirements pertaining to earning a supplementary authorization in a world language other than English, replacing options for verifying target language proficiency that are no longer available. These amendments will go into effect July 1, 2016.

Key Provisions:

The approved amendments include the following changes:

- Change the name of the Supplementary Authorization in Computer Concepts and Applications to Computer Science.
- Specify the required content areas of study educators must complete to obtain the Supplementary Authorization in Computer Science.
- Update of sections that refer to options to qualify for a supplementary authorization in a world language that are no longer available.

Important Dates:

April 1, 2016 – Revised Supplementary Authorization in Computer Science goes into effect

April 1, 2016 – Last issuance date for an initial supplementary authorization in Computer Concepts and Applications

July 1, 2016 – Updated sections for target language proficiency go into effect

Background:

At the June 2015 Commission meeting (<http://www.ctc.ca.gov/commission/agendas/2015-06/2015-06-7B.pdf>), Commissioners approved amendments to Title 5 regulations pertaining to the Supplementary Authorization in CCA to strengthen the required Content Areas of Study and to change the name of the Supplementary Authorization to Computer Science.

This change reflects the shift in focus from content preparation for teaching basic computer use, keyboarding, and software applications to more relevant 21st century content inclusive of the range of Computer Science courses taught in California public schools. The approved amendments include revised Content Areas of Study for the Supplementary Authorization to serve as a basis to ensure teachers have the requisite content knowledge to provide instruction in the range of K-12 Computer Science courses now offered in California public schools.

The chart below provides the scope of the Content Areas of Study now required for the Supplementary Authorization in Computer Science.

Authorization	Unit Requirements	Content Areas of Study- Computer Science
<p><i>Introductory Supplementary Authorization</i></p> <ul style="list-style-type: none"> Listed on Multiple Subject/Elementary Credentials for teaching grades 9 and below Listed on Single Subject/Secondary Credentials for teaching curriculum level grade 9 and below; students may be in grades K-12 	<p>20 Semester Units¹ or 10 Semester Units of Upper Division or Graduate Level Coursework</p>	<p><u>Requires coursework covering each content area:</u>²</p> <ul style="list-style-type: none"> <u>computational thinking</u> <u>computing practice and programming</u> <u>computers and communication devices</u> <u>impacts of computing</u>³ (e.g., social, ethical, legal)
<p><i>Specific Subject Supplementary Authorization</i></p> <ul style="list-style-type: none"> Listed only on Single Subject/Secondary Credentials for teaching content in grades K-12 	<p>20 Semester Units¹ or 10 Semester Units of Upper Division or Graduate Level Coursework</p>	<p><u>Requires coursework covering each content area:</u>²</p> <ul style="list-style-type: none"> <u>computer programming</u> <u>data structures and algorithms</u> <u>digital devices, systems and networks</u> <u>software design</u> <u>impacts of computing</u>³ (e.g., social, ethical, legal)



Supplementary Authorization in CCA or a Single Subject teaching credential in Mathematics, Business, or Industrial Technology Education. The revised Supplementary Authorization in Computer Science provides an additional pathway educators can pursue that very clearly targets preparation and instruction pertinent to this content area.

The approved regulations became effective April 1, 2016. Individuals completing coursework after April 1, 2016 will have to qualify for the Supplementary Authorization in Computer Science based on the revised Content Areas of Study for Computer Science. Applications will continue to be accepted for the Supplementary Authorization in CCA if the issuance date is no later than April 1, 2016. All coursework for the Supplementary Authorization in CCA must have been completed no later than April 1, 2016.

The approved regulations also include changes in 5 CCR sections 80057.5(b) and 80089.2(a) updating of sections used to verify target language proficiency to qualify for supplementary authorizations in languages other than English due to options for examinations that have expired and have been replaced with new examinations.

Source:

Education Code sections 44225, 44256, and 44349. Title 5, California Code of Regulations sections 80057.5, 80089, 80089.1, & 80089.2.

Contact Information:

Commission's Information Services Unit by email at credentials@ctc.ca.gov or by telephone at (916) 322-4974 Monday through Friday from 12:30 pm to 4:30 pm.



- plant science, and agricultural mechanics;
- (2) Art, including at least one course in each of the following areas: drawing and painting, art history or appreciation, and crafts;
 - (3) Business, including at least one course in each of the following areas: business management, business marketing or introduction to business, computer concepts and applications, economics, business communications or business English, and accounting;
 - (4) Computer Science, including at least one course in each of the following areas: computational thinking; computing practice and programming; computer and communications devices; and impacts of computing. The course of study must cover all content areas but impacts of computing may be met within a single course also used to meet one of the other required content areas;
 - (5) English, including at least one course in each of the following areas: grammar or language structure, composition, and literature;
 - (6) A Language Other Than English (Specify), including at least one course in the language covering each of the following areas: grammar, composition, conversation, and literature;
 - (7) Health Science, including at least one course in each of the following areas: substance abuse (including alcohol, drug, and tobacco), family life education (including human sexuality, HIV/AIDS, and sexually transmitted diseases), nutrition, comprehensive school health systems or programs, and health education theory, behavior, or foundations;
 - (8) Home Economics, including at least one course in each of the following areas: food and nutrition, clothing, child development, and family life and parenting;
 - (9) Industrial Arts, including at least one course in each of the following areas: drafting or graphic arts, woods or metals, and electricity or electronics;
 - (10) Mathematics, including at least one course in each of the following areas (all course work shall be at least at a level for which intermediate algebra is a prerequisite): algebra, geometry, and development of the real number system or introduction to mathematics; or three courses in calculus or other mathematics courses for which algebra and geometry are prerequisites;
 - (11) Music, including at least one course in each of the following areas: vocal music, instrumental music, music history or appreciation, and music theory;
 - (12) Physical Education, including at least one course in each of the following areas: team sports and games, fundamental and creative movement skills (such as dance and gymnastics), human movement, motor development, and/or motor learning, and individual, dual, nontraditional and global sports and games (such as aquatics, conditioning, and archery);
 - (13) Science, including at least one course in each of the following areas: biological sciences, chemistry, geosciences, and physics; and
 - (14) Social Science, including at least one course in each of the following areas: United States



history, California history, world history, geography, and United States government.

- (d) Home Economics Supplementary Authorizations must include a laboratory component in one of the listed subject areas. The course of study must cover both subject areas of food and nutrition but a single course may be used to meet the requirement. The course of study must cover both subject areas of family life and parenting, but a single course may be used to meet the requirement.
- (e) Science Supplementary Authorizations Authorized by 80057.5((c)13) shall include a one-year sequence of courses in at least two of the listed subject areas. At least one course must include a laboratory component.
- (f) The course of study for the Computer Science Supplementary Authorization authorized by 80057.5(c)(4) must include coursework aligned with the following definitions:
 - (1) Computational thinking— includes solving problems and designing systems, using fundamental computing concepts such as decomposition, data representation, generalization/abstraction, and algorithms.
 - (2) Computing practice and programming—includes expertise in at least one block-based, visual (drag-and-drop) programming language, or a modern, high-level programming language.
 - (3) Computer and communications devices—covers the major components and functions of digital devices and the computing systems they compose.
 - (4) Impacts of computing: including the social, ethical, and legal issues and impacts of computing, as well as the contributions of computer science to current and future innovations in sciences, humanities, the arts, and commerce. These topics may be included within any of the courses covering content areas (f)(1) through (f)(3).
- (g) A subject specified in subsection (c) and listed on a teaching credential specified in Education Code Section 44256(b) as a supplementary authorization shall authorize the teaching of courses related to that subject in departmentalized classes in grades 9 and below.
- (h) Applicants currently enrolled in coursework toward completion of requirements for the Supplementary Authorization in Computer Concepts and Applications must complete the required coursework and submit an application for this supplementary authorization no later than April 1, 2016. After that date, applicants must complete coursework for the Supplementary Authorization in Computer Science that meets the definitions listed in (f)(1) through (f)(4).

Note: Authority cited: Section 44225(b), Education Code. Reference: Section 44256(b), Education Code.



§80089. Adding Supplementary Authorizations to Teaching Credentials Used Predominantly in Secondary Schools.

- (a) The holder of a valid teaching credential specified in Education Code Section 44256(a) may have one or more of the subjects listed in Sections 80089.1 and 80089.2, added as a supplementary authorization. The candidate or an approved institution shall verify completion of either (1) or (2) below:
 - (1) 20 semester hours or 10 upper division semester hours of non-remedial collegiate coursework in a subject listed in Sections 80089.1 or 80089.2, or
 - (2) a collegiate major in a subject directly related to each subject listed in Sections 80089.1 or 80089.2. A “C” grade or above in any course used to meet provisions of this section shall be required. Non-remedial coursework for the purposes of this section shall be defined as coursework that is applicable to a bachelor's degree or a higher degree at a regionally accredited college or university.

- (b) Authorization.
 - (1) A supplementary authorization added under the provisions of Section 80089.1 authorizes the holder to teach that subject at any grade level; preschool, kindergarten, grades 1-12, or in classes organized primarily for adults;
 - (2) A supplementary authorization added under the provisions of Section 80089.2 authorizes the holder to teach at any grade level (preschool, kindergarten, grades 1-12, or in classes organized primarily for adults) only the subject matter content typically included for that subject in curriculum guidelines and textbooks for study in grades 9 and below.

Note: Authority cited: Section 44225, Education Code. Reference: Sections 44256 and 44349, Education Code.

§80089.1. Subjects Added as Supplementary Authorizations (Specific Subjects).

- (a) The following listed subjects may be added as supplementary authorizations to a valid teaching credential specified in Education Code Section 44256(a):

Accounting (including Finance)	International Relations
Agricultural Mechanics	Computer Science
Animal Science	Consumer Education (Home Economics)
Anthropology	Crafts, including Jewelry and Ceramics (Art)
Auto Mechanics	Dance
Biological Sciences	Drafting
Chemistry	Drama
Child Development (Home Economics)	Economics
Clothing and Textiles (Home Economics)	Economic and Consumer Education
Comparative Political Systems and	Electronics
	English Composition
	Family Life and Parenting (Home Economics)



Supplementary Authorization in Computer Science that meets the definitions listed in (e)(1)

Note: Authority cited: Section 44225, Education Code. Reference: Sections 44256 and 44349, Education Code.

