Appendix I
Supplementary Authorization Information

This section contains basic information about the supplementary authorizations program, administered by the Commission. However, It is not intended to serve as a substitute for the program information found in the *[Supplementary Authorization Guideline Book](#)*.

If you have any questions about the requirements or the process involved in obtaining a supplementary authorization, please refer to the above-mentioned guidebook. You may also submit your questions via email, with "Computer Science Supplementary Authorization Incentive Grant Questions" in the subject line to: [CSGrant@ctc.ca.gov.](mailto:CSGrant@ctc.ca.gov)

Supplementary authorizations
Supplementary authorizations allow the holder to add one or more subjects to the holder's teaching credential. There are two types of computer science supplementary authorizations: introductory and specific. The introductory computer science supplementary authorization added to a Single Subject Teaching Credential authorizes the holder to teach at any grade level the computer science subject matter content typically included in curriculum guidelines for study in grades 9 and below. The introductory computer science supplementary authorization added to a Multiple Subject Teaching Credential authorizes the holder to teach departmentalized computer science courses in grades 9 and below. The specific computer science supplementary authorization added to the Single Subject Teaching Credential authorizes the holder to teach computer science courses in grades preschool, kindergarten-12, and classes organized primarily for adults.

Documents Supplementary Authorizations May Be Added To:
- Single Subject Credentials
- Multiple Subject Credentials
- Standard Elementary and Secondary Credentials
- University Internship Credentials *(Multiple and Single Subject only)*
- Special Secondary Credentials in *Academic* Subject: Art, Business Education, Homemaking

Documents Supplementary Authorizations *May Not* Be Added To:
- General Kindergarten-Primary, Elementary, Junior High, or Secondary Credentials
- District Intern Credentials
- Special Secondary Credentials in *Non-Academic* Subject: Aviation, Blind, Deaf, Lip Reading, Nursing Education, Partially Sighted Child, Public Safety and Accident Prevention Including Driver Education and Driver Training, Sciences Basic to Medicine, Correction of Speech Defects, and Mentally Retarded
- Special Education Credentials *(current or previous)*
- Adult or Vocational Credentials

- Career Technical Education Teaching Credentials

Special Note: A subject area that is subsumed by the authorization listed on the applicant's basic teaching credential cannot be added as a supplementary authorization.

Qualifying for a Supplementary Authorization

An applicant will qualify for a supplementary authorization upon the completion of one of the following:

    a. Twenty semester units or ten upper division semester units, or the equivalent quarter units, of non-remedial coursework in the subject requested. *Introductory* subjects require at least one course in each of the content areas listed; the balance of the ten or twenty units may be in any course within the subject category. For *specific* subjects, the same unit total is required.

    b. A collegiate major from a regionally accredited college or university in a subject directly related to the subject to be listed on the credential.

Coursework that may be used for the Computer Science supplementary authorizations include:

Introductory Computer Science Supplementary Authorization: •computational thinking •computing practice and programming •computers and communication devices •impacts of computing (e.g., social, ethical, legal)

(1) **Computational thinking:** involves 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 (e.g., Alice, Blockly, Kodu, Logo, Scratch, Snap!) 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:** includes the social, ethical, and legal issues and impacts of computing, as well as the contributions of computer science to current and future innovations in the arts, business, humanities, medicine, and science. These topics may be included within courses that cover any of the other content areas.

Specific Computer Science Supplementary Authorization

Coursework completed must cover the following content areas:

(1) **Computer Programming**: includes expertise in at least one modern, high-level programming language (e.g., Python, Java, C/C++/C#).

(2) **Data structures and algorithms:** covers data representation, abstraction, searching and sorting in the context of solving problems using programming and computational tools.

(3) **Digital devices, systems and networks:** covers computer and communication devices and the systems they compose, including the concepts and abstractions that enable stand-alone, networked, and mobile digital devices to operate and communicate.

(4) **Software design:** covers the process of planning, engineering and implementing a software system to solve a problem, typically using both a design and a programming methodology, such as object-oriented and functional approaches.

(5) **Impacts of computing:** includes the social, ethical, and legal issues and impacts of computing, as well as the contributions of computer science to current and future innovations in the arts, business, humanities, medicine, and science. These topics may be included within courses that cover any of the other content areas.

The balance of the units may be in any course that falls within the academic department for that subject category. Computer classes in the Education Department may be used including a pedagogy course in computer science from either department.

Degrees in Educational Technology or Information Technology do not automatically meet the requirement without submission of official transcripts to verify all the required content areas have been fulfilled.

Supplementary Authorization Coursework Requirements

Acceptable coursework must be:

a. completed with a grade of "C" or better ("credit," "passing," or "satisfactory" is acceptable),

b. applicable toward (elective or non-elective) a bachelor's degree or a higher degree (non-remedial),

c. taken at a regionally accredited institution,

d. granted regular quarter or semester unit credit, and

e. from the subject department of the supplementary authorization being sought.

The following coursework may be used if it meets the criteria listed above:

a. community college, correspondence, on-line, or extension course work, or

b. advanced placement units (requires an official transcript of the course and written verification from the college or university admission or registrar's office that the units are applicable towards a bachelor's degree and are in the subject category of the requested supplementary authorization).

Unacceptable course work:

a. coursework not applicable toward a bachelor's degree or a higher degree (remedial),

b. professional development or continuing education units,

c. in-service training or workshops,

d. education and education methodology coursework unless: a letter is provided from the chair of the subject area department stating that the course is equivalent to one offered by that department or the supplementary subject requested is health science or computer science and applications and if the coursework has been used to meet a requirement to earn a clear credential such as Computers in an Educational Setting, and

e. coursework from a department other than that of the supplementary authorization being sought unless a letter is provided from the chair of the subject area department stating that the course is equivalent to one offered by that department.

Evaluation for the Supplementary Authorizations

Evaluations for supplementary authorizations are the responsibility of the staff in the Commission's Certification Branch. The Commission does not evaluate for supplementary authorizations without the submission of an application form (41-4), appropriate processing fee, and supporting materials. Each request is evaluated on an individual basis. Evaluations are based on the information submitted in the application packet which may include official transcripts, catalogue course descriptions, and other supporting materials.

Commission staff cannot approve courses for supplementary authorizations on the telephone or by email. If the Commission does not accept a course, the applicant may want to obtain a letter that will verify the content of the course in question as meeting the requirement as listed in (d) and (e) under *Unacceptable Course Work* on page 3 of the *Supplementary Authorization Guideline Book*.