

Supplementary Authorization Guideline Book



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California Commission on Teacher Credentialing
Certification Division
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The purpose of this Guideline book is to provide information regarding the requirements to qualify for adding a supplementary authorization to a credential

I. Introduction

The supplementary authorization has been in regulation since 1979. These regulations enable the holder of a single subject credential to have one or more subject areas be added as a supplementary authorization. In 1980 the Commission adopted Title 5 regulations to allow supplementary authorization be added to Multiple Subject Teaching Credentials. The intent was to provide an alternate method of adding a new teaching authorization to allow an individual to teach a class in a subject outside the area in which he or she earned a credential.

II. Supplementary Authorizations

Supplementary authorizations allow the holder to add one or more subjects to his or her teaching credential. There are two types of supplementary authorizations; introductory and specific. The *introductory supplementary* added to Single subject teaching credential authorizes the holder to teach at any grade level the supplementary subject matter content typically included in curriculum guidelines and textbooks for study in grades 9 and below. The *introductory supplementary* added to a Multiple subject teaching credential authorizes the holder to teach departmentalized classes related to the supplementary in grades 9 and below. The *specific supplementary* added to the Single subject teaching credential authorizes the holder to teach the specific subject in grades preschool, kindergarten-12, and classes organized primarily for adults.

Supplementary Authorizations May Be Added To	Supplementary Authorizations <u>May Not</u> Be Added To
Single Subject Credential Multiple Subject Credential Standard Elementary and Secondary Credentials University Internship Credential <i>(Multiple and Single Subject only)</i> Special Secondary Credential in <i>Academic</i> Subject Art, Business Education, Homemaking, Industrial Arts, Music, Physical Education, Speech Arts, and Vocational Agriculture	General Kindergarten-Primary, Elementary, Junior High, or Secondary Credential District Intern Credential Special Secondary Credential in <i>Non-Academic</i> 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 Credential <i>(current or previous)</i> Adult or Vocational Credential Career Technical Education Teaching Credential

The holder of a Life Multiple or Single Subject, or Clear or Life Standard Elementary, Standard Secondary or Special Secondary Teaching Credential, may apply at any time and once qualifications are verified will be issued the supplementary authorization on a separate document specially designed for that purpose.

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. For example:

- 1) Dance to a single subject credential in a physical education,
- 2) Drama, journalism, speech, or literature to a single subject credential in English, and
- 3) Photography to a single subject credential in art.

Exception- Economics may be added to a single subject credential in business as the supplementary authorization in economics is considered to be a social science.

Supplementary authorizations, even those that fall within the major or minor may be added to a Standard Secondary Teaching Credential. The Standard Secondary Teaching Credential authorizes services in grades 7-12. The introductory supplementary authorization authorizes service in grades 9 and below and a specific supplementary authorization authorizes service in grades K-12. Obtaining a supplementary authorization for these individuals will expand the grade level authorization in the subject area.

Acceptable course work 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 course work 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. course work 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 course work 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 course work has been used to meet a requirement to earn a clear credential such as Computers in an Educational Setting, and
- e. course work 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.

III. 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 course work 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.

IV. 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, catalog 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 this guideline book. The burden of proof rests with the applicant.

In January 2005, the Commission began issuing subject matter authorizations which require 32 semester units of course work or a degree in the requested subject area. The decision whether an individual needs to hold a supplementary or subject matter authorization should be addressed by the local employing agency. The Commission cannot respond to these questions as it is an employment issue and the authorization for both is essentially the same. The Commission has developed a guide for the subject matter authorizations. It may be found on the Commission's web site at <http://www.ctc.ca.gov/credentials/manuals-handbooks/Subject-Matter-Auth.pdf>.

A. Introductory Supplementary Authorizations

Introductory supplementary authorizations may be added to the Single Subject, Standard Secondary, and Special Secondary (in academic subject areas only) Teaching Credentials and authorize the holder to teach the supplementary subject matter content typically included in curriculum guidelines and textbooks for study in grades 9 and below. This allows an employer to assign a teacher with an introductory supplementary authorization to teach a class in which the curriculum is for grades 9 and below but the students in the class may be in grades 10-12.

Supplementary authorizations added to a Multiple Subject or Standard Elementary Teaching Credential authorize the holder to teach departmentalized classes related to the supplementary authorization listed on their credential in grades 9 and below. Elementary credentials will list the same subjects but the word “Introductory” is not listed.

The subjects which may be listed as supplementary authorizations on a credential are printed below in ***bold italics***. On secondary credentials, the subjects are identified as *introductory* subjects. An introductory supplementary authorization requires the verification of at least one course in each content area listed after that subject.

A guide to course work that may be used for the supplementary authorization subject areas is the *Subjects Within the Single Subject Area* list found in the Appendix of the Administrator’s Assignment Manual. The list may be accessed from the Commission’s website at <http://www.ctc.ca.gov/credentials/manuals-handbooks/Administrator-Assignment-Manual.pdf>. Note that this is a guide and does not guarantee that the course work will be accepted. The list can be found at the end of this guidebook for your convenience.

(Introductory) Agriculture: •animal science •plant science •agricultural mechanics

- Plant science coursework may be found in the life science/biology department.

(Introductory) Art: •drawing and painting •art history or appreciation •crafts

- The area of crafts may be satisfied with courses such as ceramics, printmaking, silk-screening, lithography, etching, relief, jewelry, ceramics, stone setting, sculpture, metalworking, glass making, papermaking, fiber art, weaving, candle making, and picture framing.
- An education course in Art for the Elementary Teacher may cover the crafts areas but a course description will be required to verify content.
- Photography is in the art category and may be used towards the overall unit requirement but will not satisfy the specific area of crafts.

(Introductory) Business: •business management •business marketing or introduction to business •computer concepts and applications •economics •business communications or business English •accounting

- A degree in business administration will qualify for a supplementary in Introductory Business.
- Course work may be found in both the business and social science departments.

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

- ***Computational thinking:*** involves solving problems and designing systems, using fundamental computing concepts such as decomposition, data representation, generalization/abstraction, and algorithms.
- ***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.
- ***Computer and communications devices:*** covers the major components and functions of digital devices and the computing systems they compose.

- **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.
- 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.

(Introductory) English: •grammar or language structure •composition •literature

- The Basic English courses required for a bachelor's degree, often numbered 1A and 1B, will not clear the grammar area. Course descriptions are usually needed to verify that a course covers grammar or language structure unless it is clearly mentioned in the course title. Key words or concepts for language structure are sentence structure and functions of the English verb system.
- One composition and one advanced composition course will meet the grammar or language structure and composition areas. One advanced composition and either a creative writing or applied composition course may also be used to meet the grammar or language structure and composition areas.
- Course work in foreign language literature is acceptable.

(Introductory) Health Science: •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 •health education theory, behavior, or foundations

- A course may cover more than one subject area but the units are only counted once. More than one course may be needed to clear family life education.
- Some courses may be found in the education, sociology, or psychology departments.

(Introductory) Home Economics: •food and nutrition •clothing •child development •family life and parenting ►at least one of the courses must contain a laboratory component

- Course work must include a combination of food and nutrition. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.
- Course work must include a combination of family life and parenting. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.
- The laboratory component may be found in the food, clothing, or child development areas. A field experience from the child development department will meet the laboratory component.

(Introductory) Industrial Arts: •drafting or graphic arts •woods or metals •electricity or electronics

- Drafting courses may be found in the math department.
- Graphic arts courses may be found in the art department.

(Introductory) Language Other than English: •grammar •composition •conversation •literature ►verification of oral language proficiency in the language to be listed on the credential by either:

- ▶ passage of the Language and Communication subtest (Test II or III, depending on the language) of the California Subject Examinations for Teachers (CSET) in Languages other than English (LOTE); **or**
- ▶ a letter from the chair of the Language Department of a regionally accredited four-year college or university verifying that the applicant's oral proficiency is equivalent to that of a person with a bachelor's degree with a major in that language; **or**
- ▶ a letter from an authorized person at a college or university that has an approved bilingual authorization program stating that the applicant's oral proficiency in the language is equivalent to the level required to complete that program.

Special Note

*The Commission issues a supplementary authorization in American Sign Language. To qualify, an individual needs to submit official transcripts with either the ten upper-division or twenty semester units in sign language. Coursework in interpreting skills and deaf culture is acceptable but the majority of units must be in sign language. Oral proficiency can be assessed via tests in interpreting skills and a certificate can be used to verify the proficiency requirements.

(Introductory) Mathematics: •college algebra •geometry •development of the real number system or introduction to mathematics ▶three courses in calculus or other mathematics courses for which algebra and geometry are prerequisites meet all content area requirements

- Course work must be college level mathematics or higher.
- Algebra courses must be for credit, applicable towards a degree, and, if completed at the community college level, transferable to a four-year institution to be acceptable. Elementary and intermediate algebra courses may not meet these requirements. If trying to use an elementary or intermediate algebra course, a course description will need to be submitted to verify the acceptability.
- Three courses in calculus will clear all of the specific course requirements but the applicant must still have the required 10/20 units. If the applicant has only one or two courses in calculus and no course work in algebra, geometry, or real number systems, the applicant will need to either submit course descriptions so that it can be confirmed whether or not those areas were covered by the calculus course(s) or complete additional course work in the required content areas.
- Personal enrichment-type mathematics courses are not acceptable.
- One mathematics-based computer course and one statistics course in any department are acceptable as additional units toward the required 10/20 units.

(Introductory) Music: •vocal music •instrumental music •music history or appreciation •music theory

- Harmony is acceptable for music theory.

(Introductory) Physical Education: •team sports and games •fundamental and creative movement skills (such as dance and gymnastics) •human movement motor development and/or motor learning •individual, dual, nontraditional and global sports and games (such as aquatics, conditioning, and archery)

- Some additional examples of individual, dual, nontraditional and global sports and games are golf, bowling, skiing (water & snow), racquetball, lacrosse, cricket, team handball, and tennis.

(Introductory) Science: •biological sciences •chemistry •geosciences •physics ► the course work must include a one-year sequence of courses in at least two of the listed subject areas and at least one course must include a laboratory component

- A degree directly related to science will qualify an individual for the Introductory Science supplementary authorization. For example, a major in biology, oceanography, physics, chemistry, meteorology or any related science will meet the requirement.
- *Biological sciences:* anatomy; bioethics; biology; botany; DNA and RNA structure; ecology; environmental science; evolution; genetics; marine biology; microbiology; physiology; structure and function of cells; and zoology.
- *Chemistry:* atomic, molecular, and ionic structures; chemical reactions; properties and processes of elements, compounds, mixtures, inorganic and organic substances; properties of molecules; qualitative and quantitative analysis; and state of matter including models of gases, liquids and solids.
- *Geoscience:* astronomy; cosmology; earth science/resources; forestry; fossils; geology; meteorology; mineralogy; oceanography; paleontology; soil science; and weather and climate.
- *Physics:* electromagnetic radiation including spectra, visible light and color; fission; fusion and vaporization; geodynamics; gravitation; light and optics; nuclear and atomic physics; principles of mechanics, heat, electricity, and magnetism; principles of momentum and energy; quantum theory; thermodynamics; and wave and particle motion.
- *A one-year sequence of courses* is course work that builds on ideas from the previous course in a single discipline area. The courses do not have to be taken at the same institution or in the same year. The Commission will use course numbering, prerequisites, and course descriptions as guides when evaluating for the one-year sequence. Any two courses in geoscience will be considered a sequence since geoscience courses may be taken in any order.

(Introductory) Social Science: •United States history •California history •world history •geography •United States government

- The social sciences are unique in that they encompass many different academic disciplines. A supplementary authorization in social science will not be granted unless the degree is in social science or social studies. A degree in a specific social science (history, psychology, sociology, or anthropology) does not qualify an applicant for a supplementary authorization in social science.
- A course covering the overall history of California is needed. Courses focusing on one specific geographical area of California such as the History of San Francisco are acceptable as electives only. They will not satisfy the California History requirement.
- World history courses are non-United States or region courses. This would include course such as the history of Greece, China, England, or Russia. A western civilization course may be used to meet the world history content area for an Introductory Social Science supplementary authorization.

B. Specific Supplementary Authorizations

Specific supplementary authorizations may be added to Single Subject, Standard Secondary and Special Secondary (academic subject areas only) Teaching Credentials and authorize the holder to teach the specific subject in grades preschool, kindergarten-12, and classes organized primarily for adults.

Accounting including Finance

- Course work must include a combination of accounting and finance. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.
- A degree in business does not qualify for a supplementary authorization in accounting including finance.

Agricultural Mechanics

Animal Science

- The course work may be found in the agriculture department.

Anthropology

Auto Mechanics

Biological Sciences: *course of study must include* •molecular and cellular biology •biology of organisms •evolution ►at least one of the courses must include a laboratory component

- A course may cover more than one subject area but the units are only counted once. Course descriptions are usually required.
- Any life science course work will count towards the remaining 10/20 units.
- See examples of biological science and related course work in the notes for Introductory Science.
- Kinesiology is not applicable.

Chemistry: *course of study must include* •structure and stability •chemical reactions ►at least one of the courses must include a laboratory component

- A course may cover more than one subject area but the units are only counted once. Course descriptions are usually required.
- Any chemistry course work will count towards the remaining 10/20 units.
- See examples of chemistry and related course work in the notes for Introductory Science.

Child Development (home economics): ►at least one of the courses must include a laboratory component

- A field experience from the child development department will meet the laboratory component.

Clothing and Textiles (home economics): ►at least one of the courses must include a laboratory component

- Course work must include a combination of clothing and textiles. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.

Comparative Political Systems and International Relations

- Course work must include a combination of comparative political systems and international relations. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.

- Course work in specific governments, such as U.S. Government, may be used to reach the 10/20 units.

Computer Science

- Coursework completed must cover the following content areas:
 - **Computer Programming:** includes expertise in at least one modern, high-level programming language (e.g., Python, Java, C/C++/C#).
 - **Data structures and algorithms:** covers data representation, abstraction, searching and sorting in the context of solving problems using programming and computational tools.
 - **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.
 - **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.
 - **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.

Consumer Education (home economics)

Crafts, including Jewelry and Ceramics (art)

- See notes for Introductory Art.

Dance

- Courses may be offered in departments such as physical education or anthropology.

Drafting

- Course work may be found in the math department.

Drama

- Course work may be found in the English, drama, and theatre departments.
- All aspects of drama or theatre are acceptable including courses in costume design, lighting, sound, props, and makeup.

Economics

- This is a social science subject area. If course work is not in the economics department, review the course content and request a letter from the economics department, if necessary.

Economic and Consumer Education

- Consumer education courses from the consumer science or home economics departments are acceptable. This is a business subject area.

Electronics

English Composition

- A degree in English will qualify for a supplementary in English Composition.

Family Life and Parenting (home economics)

- Course work must include a combination of family life and parenting. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.

Family Life Education including Drug, Alcohol and Tobacco Use Prevention (health science): *course of study must include* •sexually transmitted diseases including HIV/AIDS •human development and human sexuality •parenting education •violence prevention •drug, alcohol and tobacco use prevention and cessation

- Health education courses from the education department are acceptable if the course work has been used to meet the health education requirement to earn a clear credential.
- Some courses may be offered in the sociology or psychology departments.

Food and Nutrition (home economics) ►at least one of the courses must include a laboratory component

- Course work must include a combination of food and nutrition. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.

Forestry and Horticulture

- Course work must include a combination of forestry and horticulture. A single course may cover both areas. A course in each is not needed but both subjects must be covered in the 10/20 units.

Geography

Geosciences: *course of study must include* •astronomy •geology •meteorology •oceanography ►at least one of the courses must include a laboratory component

- A course may cover more than one subject area but the units are only counted once. Course descriptions are usually required.
- Any geoscience course work will count towards the remaining 10 or 20 units.
- See examples of geoscience and related course work in the notes for Introductory Science.
- Physical geography is not acceptable to meet the geoscience requirement unless the head of the earth science/geology department verifies that the course is applicable as a geoscience course required for a degree in geoscience.

- A course in marine science may meet the oceanography area requirement but marine biology does not necessarily meet that requirement. A course description will be needed.

Graphic Arts

Industrial Crafts and Plastics

- Course work must include a combination of industrial crafts and plastics. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.

Instrumental Music

- This may include course work in theory and conducting.

Interior Design (home economics) ►at least one of the courses must include a laboratory component

Journalism

Literature

- Literature courses may be offered in any language department.
- A degree in English will qualify for a supplementary in literature.

Marketing/Entrepreneurship

- Course work must include a combination of marketing and entrepreneurship. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.
- Entrepreneurship is defined as owning and operating a business.
- Course work in retail merchandising, advertising, consumer behavior, sales promotion, and salesmanship is acceptable.
- A degree in business does not qualify for a supplementary authorization in marketing/entrepreneurship.

Metals (industrials arts)

Office Technologies Including Word Processing and Business Communications

- Course work in word and data processing, business management, personnel management, information systems, business communications, business English, shorthand, typing, and business law is acceptable.
- A degree in business does not qualify for a supplementary authorization in office technologies including word processing and business communications.
- Course work must include a combination of office technologies, word processing and business communications. A single course may cover the areas but is counted only once towards the total number of units. A course in each is not needed but all subjects must be covered in the 10/20 units.

Ornamental Horticulture

- Course work may be found in the agriculture department.

Painting and Drawing

- Course work must include a combination of painting and drawing. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.

Photography

Physics: *course of study must include* •energy-mechanics •energy-heat •energy-electricity and magnetism •wave motion •atomic and nuclear physics ►at least one of the courses must include a laboratory component

- A course may cover more than one subject area but the units are only counted once. Course descriptions are usually required.
- Any physics course work will count towards the remaining 10 or 20 units.
- See examples of physics and related course work in the notes for Introductory Science.
- Course work may be found in the engineering department.

Plant Science

- Plant science is a life science.

Plastics (industrial arts)

Psychology

Sociology

Speech

- Course work may be found in the communications or English departments.

US Government and US Civics

- Civics is an individual's participation in government such as voting.
- Course work must include a combination of US Government and US Civics. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.

US History and California History

- At least one course covering the overall History of California is needed. Courses focusing on one specific geographical area of California History such as the History of San Francisco will not satisfy the California History requirement and are acceptable as elective units only.
- Course work must include a combination of US History and California History. A single course may cover both areas but is counted only once towards the total number of units. A course in each is not needed but both subjects must be covered in the 10/20 units.

Vocal Music

- Course work may include theory and conducting.

Woods (industrial arts)

World History

- The course work must include at least one non-western country history.
- A western civilization course may used for the world history supplementary authorization.

VI. Applying for a Supplementary Authorization

An applicant who holds a preliminary or clear Multiple or Single Subject Teaching Credential may request the supplementary authorization at time of application or may request it at any time during the life of the credential by submitting an application form (41-4), appropriate fee, and official transcripts. The Commission will accept verified true copies of transcripts if submitted through an employing agency.

Dating of Document

When a supplementary authorization is added to a credential (*preliminary* or *clear*), the expiration date of the credential remains unchanged as statute requires that basic credentials be issued for five years.

VII. References

Education Code

Section 44256

Title 5 Regulations

Sections 80057.5, 80089, 80089.1, and 80089.2

Leaflets

Adding subjects to an elementary credential:

<http://www.ctc.ca.gov/credentialinfo/leaflets/cl629.pdf>

Adding subjects to a secondary credential:

<http://www.ctc.ca.gov/credentialinfo/leaflets/cl603.pdf>

Questions

If you have additional questions, please contact the Information Services Unit by email at credentials@ctc.ca.gov.

SUBJECTS WITHIN THE SINGLE SUBJECTS AREA

Title 5 §80005(a) clarifies the authorization for the subject areas for service in departmentalized classes to allow an individual to be assigned to teach classes that fall within the broad single subject areas. Some subjects are listed under more than one subject such as photography which may be found under both art and industrial and technology education and child development which is listed under both health and home economics

Agriculture	Agricultural management, agricultural mechanics, agricultural science, animal science, forestry, horticulture, landscaping, and plant science
Art	Art appreciation, art history, arts and crafts, art theory, calligraphy, Cartooning, ceramics, commercial art, costume design, crafts, design, drawing, humanities, illustration, interior decoration, jewelry, leathermaking, painting, photography, sculpture, stagecraft, and yearbook
Business	Accounting, business communications, business English, business mathematics, business management, business marketing, computer concepts and applications, consumer education, data processing, economics, general office occupations, keyboarding, marketing, shorthand, typewriting, and word processing
English	Composition, creative writing, debate, drama, forensics, grammar, humanities, journalism, language arts, language structure, literature, poetry, public speaking, speech, theater arts, and yearbook
Health	Child development, family life, human sexuality, nutrition, sexually transmitted disease education, and substance abuse
Home Economics	Child development, clothing, consumer education, family life, foods, family economics, housing, human development, interior design, nutrition, parenting, and textiles
Industrial and Technology Education	Automotive mechanics, carpentry, computer technology, construction, drafting, electricity, electronics, industrial crafts, industrial design, metals, millwork, photography, plastics, radio and television, technical science/power mechanics, welding, and woods
Languages Other Than English	Courses in culture, grammar, composition, language structure, and literature of the language listed on the document
Mathematics	Basic or general mathematics, algebra, calculus, computer science, consumer mathematics, geometry, mathematical analysis, statistics and probability, and trigonometry
Music	Instrumental music, music appreciation, music theory, and vocal music

Physical Education	Aquatics, dance, fundamental and creative movement, gymnastics, interscholastic sports, motor development or learning, physical conditioning, sports, and weightlifting
Science: Biological Science	Anatomy, biology, botany, ecology, environmental science, evolution, genetics, physiology, and zoology
Science: Chemistry	Chemical reactions, qualitative analysis, quantitative analysis, and structure and stability
Science: Geosciences	Astronomy, cosmology, earth science, forestry, geology, meteorology, oceanography, and paleontology
Science: Physics	Energy, mechanics, and thermodynamics
Social Science	American government, anthropology, contemporary issues, current events, cultural studies, economics, ethnic studies, geography, government, history, humanities, international government, law, politics, psychology, sociology, United States history, and world history