

Subject Matter Requirements for Multiple Subjects		Courses that Meet the Domain
<p>Note: This is only some of the CSUDH classes that might satisfy each domain. You may use the course descriptions in the CSUDH catalog to compare courses from another university that might satisfy the domains. You may also use the community college grid to see which community college classes might meet the domains.</p>		
CSET 1		
Language and Linguistics		
<p>1.1 Language Structure and Linguistics. Candidates for Multiple Subject Teaching Credentials are able to identify and demonstrate an understanding of the fundamental components of human language, including phonology, morphology, syntax, and semantics, as well as the role of pragmatics in using language to communicate. In the context of these components, they reflect on both the potential for differences among languages and the universality of linguistic structures. Candidates can demonstrate knowledge of phonemic awareness (e.g., the processes of rhyming, segmenting, and blending). They apply knowledge of similarities and differences among groups of phonemes (e.g., consonants and vowels) that vary in their placement and manner of articulation. Candidates know the differences between phoneme awareness and phonics. They know the predictable patterns of sound-symbol and symbol-sound relationships in English (the Alphabetic Principle). Candidates identify examples of parts of speech, and their functions, as well as the morphology contributing to their classification. They recognize and use syntactic components (such as phrases and clauses, including verbals) to understand and develop a variety of sentence types (e.g., simple, compound, and complex sentences).</p>	<p>ENG 487 or ANT 312 or TED 407 or CDV 444 or equivalent</p>	
<p>1.2 Language Development and Acquisition. Candidates for Multiple Subject Teaching Credentials apply knowledge of both the development of a first language and the acquisition of subsequent ones. They can describe the principal observable milestones in each domain, and identify the major theories that attempt to explain the processes of development and acquisition. Candidates demonstrate that they understand the range of issues related to the interaction of first languages and other languages. They are able to recognize special features that may identify a pupil's language development as exceptional, distinguishing such features from interlanguage effects.</p>	<p>ENG 487 or ANT 312 or TED 407 or CDV 444 or equivalent</p>	
<p>1.3 Literacy. Candidates for Multiple Subject Teaching Credentials understand and use the major descriptions of developing literacy. Across the continuum of English language acquisition, candidates can identify the progressive development of phonemic awareness, decoding, comprehension, word recognition, and spelling (including its complexities related to the interaction of phonology, the alphabetic principle, morphology, and etymology). Candidates understand how these processes interact with the development of concepts, of vocabulary (including relationships among etymologies and both denotative and connotative word meanings), and of contextual analysis. Candidates can identify indicators of reading fluency (i.e., accuracy, rate, and prosody). They understand interrelationships between decoding, fluency, vocabulary knowledge, and reading comprehension, and they can identify factors that affect comprehension</p>	<p>LBS 400 or LBS 310 or CDV 444 or equivalent</p>	
<p>1.4 Assessment. In assessing developing literacy, candidates for Multiple Subject Teaching Credentials apply knowledge of the implications that language development and differences have for the processes of learning to read and reading to learn. They know and apply a range of assessment methods and instruments to the respective and interrelated developing abilities in listening (for aural/oral languages), speaking, reading (decoding and comprehension), writing, vocabulary, and spelling conventions.</p>	<p>LBS 400 or LBS 310 or CDV 444 or equivalent</p>	
Non written and Written Communications		
<p>2.1 Conventions of Language. Applying their knowledge of linguistic structure, candidates for Multiple Subject Teaching Credentials identify and use the conventions associated with standard English. They recognize, understand, and use a range of conventions in both spoken and written English, including varieties of sentence structure, preferred usage, and conventions of spelling, capitalization, and punctuation</p>	<p>ENG 110 or ENG 350 or Writing Intensive GWAR class or equivalent</p>	
<p>2.2 Writing Strategies. Candidates for Multiple Subject Teaching Credentials demonstrate knowledge of the stages of the writing process. They understand the purpose and technique of various prewriting strategies for organizing and giving focus to their writing (e.g., outlining, using graphic organizers, note taking). Candidates develop and strengthen writing as needed by revising, editing, rewriting, or trying a new approach. They draw upon their understanding of principles of organization, transitions, point-of-view, word choice, and conventions to produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. Candidates demonstrate the ability to use technology, including the Internet, to produce and publish individual or shared writing products.</p>	<p>ENG 110 or ENG 350 or Writing</p>	
<p>2.3 Writing Applications. Candidates for Multiple Subject Teaching Credentials demonstrate knowledge of principles of composition such as appropriate structure, logical development of ideas, appropriate vocabulary, and context. Candidates compose and/or analyze writing in different genres, including arguments, informative/explanatory texts, and narratives, as well as summaries, letters, and research reports. Candidates demonstrate the ability to write arguments to support claims using valid reasoning and</p>	<p>ENG 110 or ENG 350 or Writing</p>	

relevant and sufficient evidence. Candidates demonstrate the ability to write informative/explanatory texts, including career development documents (e.g., business letters, job applications), and to examine and convey ideas, concepts, and information through the effective selection, organization, and analysis of content. When writing an argument or informative/explanatory text, candidates draw evidence from literary and/or informational texts to support research, analysis, and reflection. Candidates demonstrate the ability to write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.	Intensive GWAR class or equivalent
2.4 Non-Written Communication. Candidates for Multiple Subject Teaching Credentials demonstrate knowledge of non-written genres and traditions, and their characteristics (e.g., organization), including narratives, persuasive pieces, research presentations, poetry recitations, and responses to literature. They apply understandings of language development stages, from pre-production (beginning) to intermediate fluency, to children’s developing abilities in such areas. Candidates analyze speech in terms of presentation components (e.g., volume, pace), pronunciation fluency, and identify the integration of nonverbal components (e.g., gesture) with verbal elements (e.g., volume). Candidates demonstrate knowledge of dialects, idiolects, and changes in what is considered standard oral English usage and their effects on perceptions of speaker performance, with attention to the dangers of stereotyping and bias. They also demonstrate an understanding of the potential impact on non-written presentations of images, sound, and other features from electronic media.	THE 120 or equivalent speech class
2.5 Research Strategies. Candidates for Multiple Subject Teaching Credentials demonstrate their ability to use a variety of research sources, both print and electronic. They interpret such research, putting to use their findings and interpretations to construct their own reports and narratives. Candidates also understand the importance of citing research sources, using recognizable and accepted conventions for doing so.	Any class that includes research
Reading Comprehension and Analysis	
3.1 Reading Literature. Candidates for Multiple Subject Teaching Credentials analyze works from different literary genres (e.g., novels, short stories, folktales and fairy tales, poems) as they are represented in diverse cultures, with special attention to children's literature, for both literary elements and structural features. They cite thorough textual evidence to support analysis of the explicit and implicit meaning of literary texts. When reading literary texts, they determine themes or central ideas, including those derived from cultural patterns and symbols found in rituals, mythologies, and traditions. Candidates analyze how dialogue and incidents in a work of fiction or drama move the action forward and/or reveal aspects of character. Candidates identify and evaluate literary devices in prose and poetry (e.g., rhyme, metaphor, alliteration). Candidates determine the meaning of words and phrases as they are used in literary texts, including figurative and connotative meanings. They analyze the impact of specific word choices on meaning and tone. They examine how an author's choices concerning structure contribute to a literary text's meaning and style. Candidates analyze how differences in the points of view of characters and the audience or reader create such effects as suspense or humor.	ENG 305 or ENG 308 or other literature classes
3.2 Reading Informational Text. Candidates for Multiple Subject Teaching Credentials analyze the structure, organization, and purpose of informational texts. Candidates use thorough textual evidence to support analysis of the explicit and implicit meanings of texts. They demonstrate the ability to determine the central idea of an informational text and to analyze its development over the course of a text, including its relationship to supporting ideas. Candidates demonstrate the ability to provide an objective summary of an informational text, using academic language as appropriate. They determine the meaning of words and phrases as they are used in informational texts, including figurative, connotative, and technical meanings. They analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts. Candidates demonstrate an understanding of how the structure of informational texts, including popular print and digital media, is used to develop and refine key concepts. They analyze the use of text features (e.g., graphics, headers, captions) in consumer materials. Candidates determine an author's point(s) of view and purpose(s) and analyze how the author acknowledges and responds to conflicting evidence or viewpoints. Candidates integrate and evaluate multiple sources of information presented in different media or formats, as well as in words. They evaluate the structure and purpose of visual text features such as graphics, illustrations, data, and maps. Candidates recognize and analyze instances of bias and stereotyping in informational texts.	ENG 110, PHI 120, or other courses that focus on informational texts
3.3 Text Complexity. Candidates for Multiple Subject Teaching Credentials evaluate text complexity using quantitative tools and measures, as well as knowledge of qualitative dimensions such as levels of meaning, structure, language conventionality and clarity, and background knowledge demands. Candidates apply knowledge of text complexity to select appropriate texts for supporting student learning goals. When matching readers to a text and task, candidates apply knowledge of reader variables (e.g., language, culture, motivation, background knowledge, skill levels, and experiences), and of task variables such as purpose and complexity.	LBS 400 or LBS 310 or equivalent
World History	
1.1 Ancient Civilizations. Candidates for Multiple Subject Teaching Credentials trace the impact of physical geography on the development of ancient civilizations (i.e., Mesopotamian, Egyptian, Kush, Hebrew, Greek, Indian, Chinese, and Roman civilizations). They identify the intellectual contributions, artistic forms, and traditions (including the religious beliefs) of these civilizations. They recognize patterns of trade and commerce that influenced these civilizations.	HIS 120 or ANT 120 or equivalent
1.2 Medieval and Early Modern Times. Candidates for Multiple Subject Teaching Credentials describe the influence of physical geography on the development of medieval and early modern civilizations (i.e., Chinese, Japanese, African, Arabian, Mesoamerican, Andean Highland, and European civilizations). They trace the decline of the Western Roman Empire and the development of feudalism as a social and economic system in Europe and Japan. They identify the art, architecture, and science of Pre-Columbian America. Candidates describe the role of Christianity in medieval and early modern Europe, its expansion beyond Europe, and the role of Islam and its impact on Arabia, Africa, Europe, and Asia. They trace the development of the Renaissance and Scientific Revolution in Europe. They define the development of early modern capitalism and its global consequences. They describe the evolution of the idea of representative democracy from the Magna Carta through the Enlightenment.	HIS 120 or ANT 120 or equivalent

U.S. History

2.1 Early Exploration, Colonial Era, and the War for Independence. Candidates for Multiple Subject Teaching Credentials identify and describe European exploration and settlement, and the struggle for control of North America during the Colonial Era, including cooperation and conflict among American Indians and new settlers. They identify the founders and discuss their religious, economic and political reasons for colonization of North America. They describe European colonial rule and its relationship with American Indian societies. Candidates describe the development and institutionalization of African slavery in the western hemisphere and its consequences in Sub-Saharan Africa. They describe the causes of the War for Independence, elements of political and military leadership, the impact of the war on Americans, the role of France, and the key ideas embodied within the Declaration of Independence.	HIS 101 or equivalent
2.2 The Development of the Constitution and the Early Republic. Candidates for Multiple Subject Teaching Credentials describe the political system of the United States and the ways that citizens participate in it through executive, legislative and judicial processes. They define the Articles of Confederation and the factors leading to the development of the U.S. Constitution, including the Bill of Rights. They explain the major principles of government and political philosophy contained within the Constitution, especially separation of powers and federalism. Candidates trace the evolution of political parties, describe their differing visions for the country, and analyze their impact on economic development policies. They identify historical, cultural, economic and geographic factors that led to the formation of distinct regional identities. They describe the westward movement, expansion of U.S. borders, and government policies toward American Indians and foreign nations during the Early Republic. They identify the roles of Blacks (both slave and free), American Indians, the Irish and other immigrants, women and children in the political, cultural and economic life of the new country.	HIS 101 or equivalent
2.3 Civil War and Reconstruction. Candidates for Multiple Subject Teaching Credentials recognize the origin and the evolution of the anti-slavery movement, including the roles of free Blacks and women, and the response of those who defended slavery. They describe evidence for the economic, social and political causes of the Civil War, including the constitutional debates over the doctrine of nullification and secession. They identify the major battles of the Civil War and the comparative strengths and weaknesses of the Union and the Confederacy. They describe the character of Reconstruction, factors leading to its abandonment, and the rise of Jim Crow practices.	HIS 101 or equivalent
2.4 The Rise of Industrial America. Candidates for Multiple Subject Teaching Credentials recognize the pattern of urban growth in the United States, the impact of successive waves of immigration in the nineteenth century, and the response of renewed nativism. They understand the impact of major inventions on the Industrial Revolution and the quality of life.	HIS 101 or equivalent

California History

3.1 The Pre-Columbian Period through the Gold Rush. Candidates for Multiple Subject Teaching Credentials identify the impact of California's physical geography on its history. They describe the geography, economic activities, folklore and religion of California's American Indian peoples. They discuss the impact of Spanish exploration and colonization, including the mission system and its influence on the development of the agricultural economy of early California. They describe Mexican rule in California. They state the causes of the war between Mexico and the United States and its consequences for California. They describe the discovery of gold and its cultural, social, political and economic effects in California, including its impact on American Indians and Mexican nationals.	LBS 375, HIS 341, or other equivalent CA History Class
3.2 Economic, Political, and Cultural Development Since the 1850's. Candidates for Multiple Subject Teaching Credentials identify key principles of the California Constitution, including the Progressive-era reforms of initiative, referendum and recall, and they recognize similarities and differences between it and the U. S. Constitution. They identify patterns of immigration to California, including the Dust Bowl migration, and discuss their impact on the cultural, economic, social and political development of the state. They identify the effects of federal and state law on the legal status of immigrants. They describe historical and contemporary perspectives on cultural diversity in the United States and in California. Candidates understand the development and identify the locations of California's major economic activities: mining, large-scale agriculture, entertainment, recreation, aerospace, electronics and international trade. They identify factors leading to the development of California's water delivery system, and describe its relationship to California geography.	LBS 375, HIS 341, or equivalent CA History course

CSET 2

Mathematics: Number Sense

1.1 Numbers, Relationships Among Numbers, and Number Systems. Candidates for Multiple Subject Teaching Credentials understand base ten place value, number theory concepts (e.g., greatest common factor), and the structure of the whole, integer, rational, and real number systems. They order real numbers, including integers, mixed numbers, rational numbers (e.g., fractions, decimals, percents) and irrational numbers on a number line. They represent and perform operations on numbers in exponential and scientific notation. They describe the relationships between the algorithms for addition, subtraction, multiplication, and division. They understand properties of number systems and their relationship to the algorithms, [e.g., 1 is the multiplicative identity; $27 + 34 = 2 \times 10 + 7 + 3 \times 10 + 4 = (2 + 3) \times 10 + (7 + 4)$]. Candidates perform operations with positive, negative, and fractional exponents, as they apply to whole numbers and fractions.	Math 107 or equivalent
1.2 Computational Tools, Procedures, and Strategies. Candidates demonstrate fluency in standard algorithms for computation and evaluate the correctness of nonstandard algorithms. They demonstrate an understanding of the order of operations. They round numbers, estimate the results of calculations, and place numbers accurately on a number line. They demonstrate the ability to use technology, such as calculators or software, for complex calculations.	Math 107 or equivalent

Mathematics: Algebra and Functions	
2.1 Patterns and Functional Relationships. Candidates represent patterns, including relations and functions, through tables, graphs, verbal rules, or symbolic rules. They use proportional reasoning such as ratios, equivalent fractions, and similar triangles, to solve numerical, algebraic, and geometric problems. They use mathematics to represent and analyze quantitative relationships between dependent and independent variables in real-world problems.	Math 107 or equivalent
2.2 Linear and Quadratic Equations and Inequalities. Candidates are able to find equivalent expressions for equalities and inequalities, explain the meaning of symbolic expressions (e.g., relating an expression to a situation and vice versa), find the solutions, and represent them on graphs. They recognize and create equivalent algebraic expressions (e.g., $2(a+3) = 2a + 6$), and represent geometric problems algebraically (e.g., the area of a triangle). They use mathematics to solve real-world problems using numerical and algebraic expressions and equations. Candidates have a basic understanding of linear equations and their properties (e.g., slope, perpendicularity); the multiplication, division, and factoring of polynomials; and graphing and solving quadratic equations through factoring and completing the square. They interpret graphs of linear and quadratic equations and inequalities, including solutions to systems of equations.	Math 107 or equivalent
Geometry	
3.1 Two- and Three-dimensional Geometric Objects. Candidates for Multiple Subject Teaching Credentials understand characteristics of common two- and three- dimensional figures, such as triangles (e.g., isosceles and right triangles), quadrilaterals, and spheres. They are able to draw conclusions based on the congruence, similarity, or lack thereof, of two figures. They identify different forms of symmetry, translations, rotations, and reflections. They understand the Pythagorean theorem and its converse. They are able to work with properties of parallel lines.	Math 207 or equivalent class
3.2 Representational Systems, Including Concrete Models, Drawings, and Coordinate Geometry. Candidates use concrete representations, such as manipulatives, drawings, and coordinate geometry to represent geometric objects. They construct basic geometric figures using a compass and straight edge, and represent three-dimensional objects through two-dimensional drawings. They combine and dissect two- and three- dimensional figures into familiar shapes, such as dissecting a parallelogram and rearranging the pieces to form a rectangle of equal area.	Math 207 or equivalent class
3.3 Techniques, Tools, and Formulas for Determining Measurements. Candidates estimate and measure time, length, angles, perimeter, area, surface area, volume, weight/mass, and temperature through appropriate units and scales. They identify relationships between different measures within the metric or customary systems of measurements and estimate an equivalent measurement across the two systems. They calculate perimeters and areas of two-dimensional objects and surface areas and volumes of three-dimensional objects, and use mathematics to solve real-world problems involving the volume of cones, cylinders, and spheres. They relate proportional reasoning to the construction of scale drawings or models. They use measures such as miles per hour to analyze and solve problems.	Math 207 or equivalent class
Statistics, Data Analysis, and Probability	
4.1 Collection, Organization, and Representation of Data. Candidates represent a collection of data through graphs, tables, or charts, incorporating technology as appropriate. They understand the mean, median, mode, and range of a collection of data. They have a basic understanding of the design of surveys, such as the role of a random sample.	Math 207 or equivalent class
4.2 Inferences, Predictions, and Arguments Based on Data. Candidates interpret a graph, table, or chart representing a data set. They investigate patterns of association in bivariate data (e.g., linear associations, goodness of fit) in scatter plots and frequency tables. They draw conclusions about a population from a random sample, and identify potential sources and effects of bias.	Math 207 or equivalent class
4.3 Basic Notions of Chance and Probability. Candidates can define the concept of probability in terms of a sample space of equally likely outcomes. They use their understanding of complementary, mutually exclusive, dependent, and independent events to calculate probabilities of simple events. They can express probabilities in a variety of ways, including ratios, proportions, decimals, and percents. They find probabilities of compound events using various representations (e.g., organized lists, tables, tree diagrams, simulations).	Math 207 or equivalent class
Physical Sciences	
1.1 Structure and Properties of Matter. Candidates for Multiple Subject Teaching Credentials understand the physical properties of solids, liquids, and gases, such as color, mass, density, hardness, and electrical and thermal conductivity. They know that matter can undergo physical changes (e.g., changes in state such as the evaporation and freezing of water) and chemical changes (i.e., atoms in reactants rearrange to form products with new physical and chemical properties) and understand conservation laws with respect to matter and energy. They know that matter consists of atoms and molecules in various arrangements, and can give the location and motions of the parts of an atom (protons, neutrons, and electrons). They can describe the constituents of molecules and compounds, naming common elements (e.g., hydrogen, oxygen, iron), and explain how elements are organized on the periodic table on the basis of the characteristics of atoms and their chemical properties. They can describe characteristics of solutions (such as acidic, basic, and neutral solutions) and they know examples with different pH levels, such as soft drinks, liquid detergents, and water. They know that mixtures may often be separated based on physical or chemical properties.	Physics 210 (formerly PHY 300) or equivalent class

<p>1.2 Principles of Motion and Energy. Candidates for Multiple Subject Teaching Credentials describe an object's motion based on position, displacement, speed, velocity, and acceleration. They know that forces (pushes and pulls), such as gravity, magnetism, and friction, act on objects and may change their motion if these forces are not in balance. They know that "like" electrical charges or magnetic poles produce repulsive forces and "unlike" charges or poles produce attractive forces. They describe simple machines in which small forces are exerted over long distances to accomplish difficult tasks (e.g., using levers or pulleys to move or lift heavy objects). Candidates identify forms of energy, including solar, wind, chemical, electrical, magnetic, nuclear, sound, light, and electromagnetic. They know that total energy in a system is conserved but may be changed from one form to another, as in an electrical motor or generator, and that speed and energy are related. They understand the difference between heat (thermal energy) and temperature, and understand temperature measurement systems. Candidates know how heat may be transferred by conduction, convection, and radiation (e.g., involving a stove, Earth's mantle, or the sun). They describe sources of light, including the sun, lightbulbs, or excited atoms (e.g., neon in neon lights), and interactions of light with matter (e.g., vision, photosynthesis). Candidates can describe the properties of waves (e.g., wavelength, amplitude, frequency) and applications and technologies associated with these properties. They know and can apply the optical properties of waves, especially light and sound, including reflection (e.g., by a mirror) or refraction (e.g., bending light through a prism). They explain conservation of energy resources in terms of renewable and nonrenewable natural resources and their use in society.</p>	<p>Physics 210 (formerly PHY 300) or equivalent class</p>
<p>Life Sciences</p>	
<p>2.1 Structure of Living Organisms and Their Function (Cell Biology). Candidates for Multiple Subject Teaching Credentials describe levels of hierarchical organization and related functions in plants and animals, including organ systems (e.g., the digestive system), organs, tissues (e.g., ovules in plants, heart chambers in humans), cells, and subcellular organelles (e.g., nucleus, chloroplast, mitochondrion). They know structures and related functions of systems in plants and animals, such as the nervous, reproductive, respiratory, circulatory, and digestive systems. They understand the fundamental principles of chemistry underlying the functioning of biological systems (e.g., carbon's central role in living organisms, water and salt, DNA, the energetics of photosynthesis).</p>	<p>BIO 102 & 103 (Lab) or equivalent BIO class</p>
<p>2.2 Living and Nonliving Components in Environments (Ecology). Candidates for Multiple Subject Teaching Credentials know that all living things are made up of cells and can describe the characteristics of many living organisms (e.g., growth, reproduction, stimulus response). They understand the basic needs of all living organisms (e.g., food, water, space) and how organisms can alter their environments to meet those needs, and can distinguish between environmental adaptations and accommodations. They describe the relationship between the number and types of organisms an ecosystem can support and relationships among members of a species and across species. They illustrate the transfer of energy and the cycling of matter through an ecosystem from sunlight through individual organisms in food chains and food webs (including primary producers, consumers, and decomposers). They identify the resources available in an ecosystem, and describe the environmental factors that support the ecosystem, such as temperature, water, and soil composition, as well as how the ecosystem responds to changes in these factors. They identify ways in which human activities and natural processes impact the local and global climate and possible solutions to reduce adverse impacts.</p>	<p>BIO 102 & 103 (Lab) or equivalent</p>
<p>2.3 Life Cycle, Reproduction, and Evolution (Genetics and Evolution). Candidates for Multiple Subject Teaching Credentials diagram life cycles of familiar organisms (e.g., butterfly, frog, mouse). They explain the factors that affect the growth and development of plants, such as light, gravity, and stress. They distinguish between sexual and asexual reproduction, and understand the process of cell division (mitosis), the types of cells and their functions, and the replication of plants and animals. They distinguish between environmental and genetic sources of variation, and understand the principles of natural and artificial selection. They know how evidence from the fossil record, comparative anatomy, and DNA sequences can be used to support the theory that life gradually evolved on earth over billions of years. They understand the basis of Darwin's theory, that species evolved by a process of natural selection.</p>	<p>BIO 102 & 103 (Lab) or equivalent</p>
<p>Earth Sciences</p>	
<p>3.1 The Solar System and the Universe (Astronomy). Candidates for Multiple Subject Teaching Credentials identify and describe the components of the solar system (e.g., planets, comets, asteroids) and their predictable patterns of motion around the sun. They explain time zones in terms of longitude and the rotation of Earth, and understand the reasons for changes in the observed position of the sun, moon, and stars in the sky during the course of the day and from season to season. They name and describe bodies in the universe (e.g., sun, stars, galaxies) in terms of apparent brightness and/or relative size.</p>	<p>EAR 416 or equivalent or Astronomy class</p>
<p>3.2 The Structure and Composition of the Earth (Geology). Candidates for Multiple Subject Teaching Credentials describe the formation and observable physical characteristics of minerals (e.g., quartz, calcite, hornblende, mica, common ore minerals) and different types of rocks (i.e., sedimentary, igneous, and metamorphic). They identify characteristics of landforms, such as mountains, rivers, deserts, and oceans. They explain chemical and physical weathering, erosion, deposition, and other rock-forming and soil-changing processes and the formation and properties of different types of soils and rocks. They describe layers of the earth (crust, lithosphere, mantle, and core) and plate tectonics, including its convective source. They explain how mountains are created, identify the factors that cause volcanoes and earthquakes to occur, and describe the effect of these phenomena on the earth's surface, ecosystems, and human society. They know the commonly cited evidence supporting the theory of plate tectonics. They identify factors influencing the location and intensity of earthquakes. They describe the effects of plate tectonic motion over time on climate, geography, and distribution of organisms, as well as more general changes on the earth over geologic time as evidenced in landforms and the rock and fossil records, including plant and animal extinction. They identify potential technological solutions to reduce the impact of these natural Earth processes on humans and society and to reduce human impact on Earth's processes.</p>	<p>EAR 416 or equivalent or Geology class</p>

<p>3.3 The Earth's Atmosphere (Meteorology). Candidates for Multiple Subject Teaching Credentials explain the influence and role of the sun and oceans in weather and climate and the role of the water cycle. They describe causes and effects of air movements and ocean currents (based on convection of air and water) on daily and seasonal weather and on climate. They describe the importance of technology with regard to predicting and mitigating the impact of severe weather and other natural hazards.</p>	<p>EAR 416 or equivalent or meteorology class</p>
<p>3.4 The Earth's Water (Oceanography). Candidates for Multiple Subject Teaching Credentials compare the characteristics of bodies of water, such as rivers, lakes, oceans, and estuaries. They describe tides and explain the mechanisms causing and modifying them, such as the gravitational attraction of the moon, sun, and coastal topography. Candidates understand the water cycle, including the properties of water and how changes in the form of water are driven by energy from the sun and gravity. They know that Earth's hydrosphere interacts with Earth's other major systems to affect Earth's surface materials and processes.</p>	<p>EAR 416 or equivalent or oceanography class</p>
CSET 3	
VAPA-Dance	
<p>In the visual and performing arts, candidates for the Multiple Subject Teaching Credential identify the components of the <i>State Curriculum Framework</i> and the strands of the <i>California Student Academic Content Standards</i> in the Visual and Performing Arts: 1) Artistic Perception - processing sensory information 2) Creative Expression - producing works in the arts 3). Historical and Cultural Context - the time and place of creation of works of art 4)Aesthetic Valuing - pursuing meaning in the arts, Connections, Relationships, Applications</p>	<p>Dance 130 or Dance 440 or LBS 405 or equivalent</p>
<p>Candidates for Multiple Subject Teaching Credentials identify the components and strands of dance education found in the <i>Visual and Performing Arts Framework and Student Academic Content Standards</i>. They demonstrate a basic fluency with the elements of dance such as space, time, levels, and force/energy. They use basic techniques to create dance/movement with children.</p>	
<p>Candidates, while grounded in the elements of dance, are able to identify and explain styles of dance from a variety of times, places, and cultures. They are able to make judgments about dance works based on the elements of dance.</p>	
VAPA Music	
<p>In the visual and performing arts, candidates for the Multiple Subject Teaching Credential identify the components of the <i>State Curriculum Framework</i> and the strands of the <i>California Student Academic Content Standards</i> in the Visual and Performing Arts: 1) Artistic Perception - processing sensory information 2) Creative Expression - producing works in the arts 3). Historical and Cultural Context - the time and place of creation of works of art 4)Aesthetic Valuing - pursuing meaning in the arts, Connections, Relationships, Applications</p>	<p>Music 101 or Music 340 or LBS 405 or equivalent</p>
<p>Candidates for Multiple Subject Teaching Credentials understand the components and strands of music education found in the <i>Visual and Performing Arts Framework and Student Academic Content Standards</i>. They demonstrate a basic fluency with the elements of music such as pitch, rhythm, and timbre and music concepts, including music notation. They use basic techniques to create vocal and instrumental music with children.</p>	
<p>Candidates are able to identify and explain styles and types of music and instruments from a variety of times, places, and cultures. They are able to make judgments about musical works based on the elements and concepts of music.</p>	
VAPA Theatre	
<p>In the visual and performing arts, candidates for the Multiple Subject Teaching Credential identify the components of the <i>State Curriculum Framework</i> and the strands of the <i>California Student Academic Content Standards</i> in the Visual and Performing Arts: 1) Artistic Perception - processing sensory information 2) Creative Expression - producing works in the arts 3). Historical and Cultural Context - the time and place of creation of works of art 4)Aesthetic Valuing - pursuing meaning in the arts, Connections, Relationships, Applications.</p>	<p>THE 100 or THE 337 or THE 339 or LBS 405 or equivalent</p>
<p>Candidates for Multiple Subject Teaching Credentials identify the components and strands of theatre education found in the <i>Visual and Performing Arts Framework and Student Academic Content Standards</i>. They demonstrate a basic fluency in acting, directing, design, and scriptwriting (plot and action). They can apply these elements and principles in order to create dramatic activities with children including improvisation and character development.</p>	
<p>Candidates are able to identify and explain styles of theatre from a variety of times, places, and cultures. They are able to make judgments about dramatic works based on the elements of theatre.</p>	
VAPA Art	
<p>In the visual and performing arts, candidates for the Multiple Subject Teaching Credential identify the components of the <i>State Curriculum Framework</i> and the strands of the <i>California Student Academic Content Standards</i> in the Visual and Performing Arts: 1) Artistic Perception - processing sensory information 2) Creative Expression - producing works in the arts 3). Historical and Cultural Context - the time and place of creation of works of art 4)Aesthetic Valuing - pursuing meaning in the arts, Connections, Relationships, Applications.</p>	

Candidates for Multiple Subject Teaching Credentials identify the components and strands of visual arts education found in the <i>Visual and Performing Arts Framework and Student Academic Content Standards</i> . They demonstrate a basic fluency with the principles of art such as balance, repetition, contrast, emphasis, and unity and are able to explain how works of art are organized in terms of line, color, value, space, texture, shape, and form.	Art 100 or Art 301 or LBS 405 or equivalent
Candidates are able to identify and explain styles of visual arts from a variety of times, places, and cultures. They interpret works of art to derive meaning and are able to make judgments based on the principles of art as they are used to organize line, color, value, space, texture, shape, and form in works of art.	
Physical Education	
1.1 Basic Movement Skills. Candidates for Multiple Subject Teaching Credentials can identify movement concepts including body awareness, space awareness, and movement exploration. They can list locomotor skills such as skipping, nonlocomotor skills such as static balancing, and object manipulation such as catching. They can recognize basic concepts of biomechanics that affect movement, such as how the body moves and how such movement is influenced by gravity, friction, and the laws of motion. They can describe critical elements of basic movement skills, such as stepping in opposition when throwing and/or following through when kicking a ball.	KIN 425 or equivalent
1.2 Exercise Physiology: Health and Physical Fitness. Candidates for Multiple Subject Teaching Credentials can identify health and fitness benefits and associated risks, supporting a physically active lifestyle, related to safety and medical factors (e.g., asthma, diabetes). They recognize exercise principles such as frequency, intensity, and time to select activities that promote physical fitness. They can describe physical fitness components, such as flexibility, muscular strength and endurance, cardiorespiratory endurance, and body composition, which are included in comprehensive personal fitness development programs.	
1.3 Movement Forms: Content Areas. Candidates for Multiple Subject Teaching Credentials know a variety of traditional and nontraditional games, sports, dance, and other physical activities. They are able to cite basic rules and social etiquette for physical activities. They can select activities for their potential to include all students regardless of gender, race, culture, religion, abilities, or disabilities. They integrate activities with other content areas, such as math and science.	
2.1 Physical Growth and Development. Candidates for Multiple Subject Teaching Credentials identify the sequential development of fine and gross motor skills in children and young adolescents. They describe the influence of growth spurts (changes in height and weight) and body type on movement and coordination. They recognize the impact of factors such as exercise, relaxation, nutrition, stress, and substance abuse on physical health and general well-being.	
2.2 Self-Image. Candidates for Multiple Subject Teaching Credentials discover the role of physical activity in the development of a positive self-image, and how psychological skills such as goal setting are selected to promote lifelong participation in physical activity.	
3.1 Social Aspects of Physical Education. Candidates for Multiple Subject Teaching Credentials recognize individual differences such as gender, race, culture, ability, or disability. They describe the developmental appropriateness of cooperation, competition, and responsible social behavior for children of different ages. They list activities to provide opportunities for enjoyment, self-expression, and communication.	
3.2 Cultural and Historical Aspects of Movement Forms. Candidates for Multiple Subject Teaching Credentials understand the significance of cultural and historical influences on games, sports, dance, and other physical activities.	
Human Development	
1.1 Cognitive Development. Candidates for Multiple Subject Teaching Credentials define basic concepts of cognitive and moral development (e.g., reasoning, symbol manipulation, and problem solving). They identify stages in cognitive and language development and use them to describe the development of individuals, including persons with special needs. Candidates identify characteristics of play and their influence on cognitive development. They recognize different perspectives on intelligence (i.e., concepts of multiple intelligences) and their implications for identifying and describing individual differences in cognitive development.	LBS 205 or Psych 350 or CDV 150 or equivalent
2.1 Social Development. Candidates for Multiple Subject Teaching Credentials define concepts related to the development of personality and temperament (e.g., attachment, self-concept, autonomy, identity). They describe the social development of children and young adolescents, including persons with special needs. They identify characteristics of play and their impact on social development, and they describe influences on the development of prosocial behavior.	
2.2 Physical Development. Candidates describe the scope of physical development at different ages. They identify individual differences in physical development, including the development of persons with special needs.	
3.1 Influences on Development. Candidates for Multiple Subject Teaching Credentials identify potential impacts on the development of children and young adolescents from genetic or organic causes, sociocultural factors (e.g., family, race, cultural perspective), socioeconomic factors (e.g., poverty, class), and sex and gender. They also identify sources of possible abuse and neglect (e.g., physical, emotional and substance abuse and neglect) and describe their impact on development.	

