CHEMISTRY (CHM)

Note: Completion of CHM 1A, 1B is equivalent to San Jose State University sequence of CHM 1A, 1B, although the order of topics presented is different. Students who are planning to complete the sequence are advised to take both semesters at the same college.

CHM 001A GENERAL CHEMISTRY 5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite: CHM 002 OR High School Chemistry with a “B” or better
Prerequisite: MAT 000C OR MAT 00CM OR High School Algebra II, or equivalent
Acceptable for credit: University of California, California State University
Chemistry 001A is the first of a two-semester sequence in general inorganic chemistry designed for science majors and those seeking entry to medicine or other professional programs in the health sciences. Topics include atomic structure, theories of chemical bonding, nomenclature, stoichiometry, thermochemistry, gas laws, and the properties of solids, liquids, gases, and solutions. Grade only. C-ID # CHEM 110, CHEM 120S. CSUGE: B1, B3; IGETC: 5A, 5C.

CHM 001AH GENERAL CHEMISTRY I - HONORS 5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite: CHM 002 OR High School Chemistry with a “B” or better
Prerequisite: MAT 000C OR MAT 00CM OR High School Algebra II, or equivalent
Acceptable for credit: University of California, California State University
Chemistry 001AH is the honors version of the first of a two-semester sequence in general inorganic chemistry designed for science majors and those seeking entry to medicine and other professional programs in the health sciences. Topics include atomic structure, stoichiometry, chemical bonding, thermochemistry, chemical reactivity, and the properties of solids, liquids, gases, and solutions. Students cannot get credit for both CHM 001A and CHM 001AH. Enrollment in the Honors Transfer Project is required. Grade only. C-ID # CHEM 110, CHEM 120S. CSUGE: B1, B3; IGETC: 5A, 5C.

CHM 001B GENERAL CHEMISTRY 5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite: CHM 002
Acceptable for credit: University of California, California State University
This course is a continuation of CHM 001A (General Chemistry I) and is intended for majors in chemistry, biological sciences, engineering, and professional programs in medicine and pharmacy. Topics include organic compounds, chemical kinetics, chemical equilibria, acid-bases, buffers, thermodynamics, electrochemistry, coordination compounds, and nuclear chemistry. Grade only. C-ID # CHEM 120S. CSUGE: B1, B3; IGETC: 5A, 5C.

CHM 001BH GENERAL CHEMISTRY II - HONORS 5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite: CHM 002
Acceptable for credit: University of California, California State University
Chemistry 001BH is the honors version of the second of a two-semester sequence in general inorganic chemistry designed for science majors and those seeking entry to medicine and other professional programs in the health sciences. Topics include organic compounds, chemical kinetics, chemical equilibria, acid-bases, buffers, thermodynamics, electrochemistry, coordination compounds, and nuclear chemistry. Students cannot get credit for both CHM 001B and CHM 001BH. Enrollment in the Honors Transfer Project is required. Grade only. C-ID # CHEM 120S. CSUGE: B1, B3; IGETC: 5A, 5C.

CHM 002 INTRODUCTORY CHEMISTRY 3.0 UNITS
Total Lecture: 54 hours
Prerequisite: MAT 000C or High School Algebra II, or equivalent
Acceptable for credit: University of California, California State University
CHM 002 is designed specifically to prepare students for CHM 001A (general chemistry). It introduces the principles of atomic structure, gas laws, solutions, and acid-base theories. There is heavy emphasis on problem solving, chemical formulas, equations and quantity relationships. Pass/No Pass Option. C-ID # CHEM 101. CSUGE: B1; IGETC: 5A.

CHM 002L INTRODUCTORY CHEMISTRY LABORATORY 1.0 UNIT
Total Lab: 54 hours
Prerequisite or Corequisite: CHM 002
Acceptable for credit: University of California, California State University
This course is a laboratory component to accompany CHM 002: Introductory Chemistry. Pass/No Pass Option. C-ID # CHEM 101. CSUGE: B3; IGETC: 5C.

CHM 012A ORGANIC CHEMISTRY I 5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite: CHM 001B
Acceptable for credit: University of California, California State University
CHM 012A is the first semester of organic chemistry, which includes a study of important organic molecules found in living systems and man-made molecules. This course includes both lecture and laboratory work designed to prepare students to enter fields of study such as chemistry, engineering, pre-pharmacy, pre-dentistry, pre-medicine, and biological sciences. Modern laboratory techniques, including instrumental methods of structure determination, are included. Grade only. C-ID # CHEM 150, CHEM 160S. CSUGE: B1, B3; IGETC: 5A, 5C.

CHM 012AH ORGANIC CHEMISTRY I - HONORS 5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite: CHM 001B or CHM 001BH
Acceptable for credit: University of California, California State University
CHM 012AH is the honors course for the first semester of organic chemistry, which includes a study of important organic molecules found in living systems and man-made molecules. This course includes both lecture and laboratory work designed to prepare students to enter fields of study such as chemistry, engineering, pre-pharmacy, pre-dentistry, pre-medicine, and biological sciences. Modern laboratory techniques, including instrumental methods of structure determination, are included. Students cannot get credit for both CHM 012A and CHM 012AH. Enrollment in the Honors Transfer Project is required. Grade only. C-ID # CHEM 150, CHEM 160S. CSUGE: B1, B3; IGETC: 5A, 5C.

CHM 012B ORGANIC CHEMISTRY II 5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite: CHM 001A
Acceptable for credit: University of California, California State University
CHM 012B is the second semester of organic chemistry, which includes a study of important organic molecules found in living systems and man-made molecules. This course includes both lecture and laboratory work designed to prepare students to enter fields of study such as chemistry, engineering, pre-pharmacy, pre-dentistry, pre-medicine, and biological sciences. Modern laboratory techniques, including instrumental methods of structure determination, are included. Grade only. C-ID # CHEM 150, CHEM 160S. CSUGE: B1, B3; IGETC: 5A, 5C.

CHM 012BH ORGANIC CHEMISTRY II - HONORS 5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite: CHM 001A
Acceptable for credit: University of California, California State University
Chemistry 012BH is the honors version of the second of a two-semester sequence in general inorganic chemistry designed for science majors and those seeking entry to medicine and other professional programs in the health sciences. Topics include organic compounds, chemical kinetics, chemical equilibria, acid-bases, buffers, thermodynamics, electrochemistry, coordination compounds, and nuclear chemistry. Students cannot get credit for both CHM 012B and CHM 012BH. Enrollment in the Honors Transfer Project is required. Grade only. C-ID # CHEM 120S. CSUGE: B1, B3; IGETC: 5A, 5C.
CHM 012BH · ORGANIC CHEMISTRY II - HONORS  5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite: CHM 012A or CHM 012AH
Acceptable for credit: University of California, California State University
CHM 012BH is the honors course for the second semester of organic chemistry, which includes a study of important organic molecules found in living systems and man-made molecules. This course includes both lecture and laboratory work designed to prepare students to enter fields of study such as chemistry, engineering, pre-pharmacy, pre-dentistry, pre-medicine, and biological sciences. Modern laboratory techniques, including instrumental methods of structure determination, are included. Students cannot get credit for both CHM 012B and CHM 012BH. Enrollment in the Honors Transfer Project is required. Grade Only. C-ID # CHEM 160S. CSUGE: B1, B3; IGETC: 5A, 5C.

CHM 030A · FUNDAMENTALS OF CHEMISTRY  4.0 UNITS
Total Lecture: 54 hours, Total Lab: 54 hours
Prerequisite: MAT 903 OR High School Algebra I, or equivalent
Acceptable for credit: University of California, California State University
CHM 030A is an introductory chemistry course designed for nursing and allied-health majors. Topics include dimensional analysis, inorganic nomenclature, atomic and molecular structure, bonding, chemical reactions, gas laws, solutions, acids-bases, oxidation-reduction, equilibrium and electrolyte systems. This course is not recommended for students majoring in biology or chemistry or for those seeking entry to professional programs in medicine or pharmacy. Grade only. CSUGE: B1, B3; IGETC: 5A, 5C.

CHM 060 · SURVEY OF GENERAL, ORGANIC, AND BIOLOGICAL CHEMISTRY  4.0 UNITS
Total Lecture: 54 hours, Total Lab: 54 hours
Prerequisite: MAT 903 OR High School Algebra I, or equivalent
Acceptable for credit: California State University
Topics include atomic structure, chemical bonding, and acid-base chemistry; organic chemistry nomenclature, functional groups, stereochemistry, and classes of organic reactions; an introduction to the structure and function of biological macromolecules (carbohydrates, lipids, DNA/RNA, and proteins) and an overview of metabolism. Grade Only. CSUGE: B1, B3.

CHD 001 · CHILD GROWTH DEVELOPMENT  3.0 UNITS
Total Lecture: 54 hours
Acceptable for credit: California State University, University of California
This course is a study of typical and atypical child growth and development in all domains from conception through adolescence. There is an emphasis on interactions between maturational processes and environmental factors within the family cultural context. Students observe children using investigative research methods, evaluate differences and analyze characteristics of development at various stages. Grade only. C-ID # CDEV 100. CSUGE: D.

CHD 002 · CHILD, FAMILY, AND COMMUNITY  3.0 UNITS
Total Lecture: 54 hours
Advisory: CHD 001
Acceptable for credit: California State University, University of California
This course addresses processes of socialization focusing on the interrelationship of family, school, and community. The course examines the influence of multiple societal contexts and explores the role of collaboration between family, community, and schools in supporting children’s development, birth through adolescence. This course fulfills requirements as a core course for Title 22 licensing and the Child Development Permit. Grade only. C-ID # CDEV 110. CSUGE: D, E.

CHD 003 · LANGUAGE AND LITERACY FOR THE YOUNG CHILD  3.0 UNITS
Total Lecture: 54 hours
Advisory: CHD 001 and CHD 002
Acceptable for credit: California State University
This course is designed to give students an opportunity to learn about the development of language in children and to learn about which experiences and techniques are needed to enable children to further that development. Students learn how to promote oral language abilities through activities offered by books, poetry, dramatic play, and group discussions. Grade Only.

CHD 004 · COGNITIVE EXPERIENCES FOR CHILDREN  3.0 UNITS
Total Lecture: 54 hours
Advisory: CHD 001 and CHD 002
Acceptable for credit: California State University
This course will examine the cognitive development in children by reviewing the theories, research and curriculum experiences that will enhance the child’s thinking or understanding of the child’s physical and social world. The implications of Piaget’s theory for curriculum design and the role of the teacher and the environment in cognitive development will also be examined. Observation of children will be required. Grade only.

CHD 005 · MUSIC AND MOVEMENT  3.0 UNITS
Total Lecture: 54 hours
Acceptable for credit: California State University
This course is the study of music and movement activities and how these activities affect the child’s growth and development. Students learn how to assess musical and movement experiences and design activities that promote the child’s development. Students gain skills in determining how these musical experiences help with the pre-reading period, cognitive development, social-emotional development, and sensory and creative expressions. Observation of children is required. Students develop a resource file of songs and music to use for curriculum design and lesson plans. Grade Only.

CHD 006 · ADMINISTRATION I: PROGRAMS IN EARLY CHILDHOOD EDUCATION  3.0 UNITS
Total Lecture: 54 hours
Prerequisite: CHD 001, CHD 002, and CHD 010
Acceptable for credit: California State University
This course is an introduction to the administration procedures in early care and education programs. Topics include licensing requirements, administrative structures and governance, budgeting, program operation and quality improvement techniques. This course fulfills the State of California licensing requirements and partially fulfills requirements for Program Director or Site Supervisor Permits. Grade only.

CHD 007 · ADMINISTRATION II: PERSONNEL AND LEADERSHIP IN EARLY CHILDHOOD EDUCATION  3.0 UNITS
Total Lecture: 54 hours
Prerequisite: CHD 006
Acceptable for credit: California State University, California State University
This course is an in-depth study of effective application of personnel management and leadership procedures in early childhood programs. Topics include the unique goals, roles and responsibilities of the director or supervisor of the children's center. The course includes staff-administrator relationships, staff development and in-service training, and focuses on effective problem solving techniques, decision making models, meetings, performance appraisals, and assessment of individual leadership styles. This course fulfills requirements for the State of California licensing policies and procedures Title 22. This course also fulfills the requirements for the Site Supervisor and Program Director Child Development Permit. Grade only.
This course introduces students to developmentally appropriate early childhood teaching competencies under guided supervision. Students utilize practical classroom experiences to make connections between theory and practice, develop professional behaviors, and build a comprehensive understanding of children and families. All aspects of curriculum development and implementation are emphasized. Students are required to complete 108 hours of scheduled work under the supervision of a practicum supervisor at the Mission College Child Development Center. Grade only. C-ID # ECE 210.

**CHD 010 PRINCIPLES AND PRACTICES IN EDUCATION 3.0 UNITS**

**CHD 013 TEACHING IN A DIVERSE SOCIETY 3.0 UNITS**

**CHD 014 ART AND CREATIVE DEVELOPMENT OF YOUNG CHILDREN 3.0 UNITS**

**CHD 015 OBSERVATION AND ASSESSMENT OF CHILDREN 3.0 UNITS**

**CHD 016 INFANT AND TODDLER DEVELOPMENT 3.0 UNITS**

**CHD 017 CHILD HEALTH, SAFETY AND NUTRITION 3.0 UNITS**

**CHD 018 PARENTING ISSUES FOR TEACHERS 1.0 UNIT**

**CHD 020 THE CHILD WITH SPECIAL NEEDS IN THE COMMUNITY 3.0 UNITS**
CHD 021  CHILDREN AND PLAY  3.0 UNITS
Total Lecture: 54 hours
Advisory: CHD 001
Acceptable for credit: California State University
This course focuses on the classic and contemporary theories of play and the implications of play in relationship to the child’s social-emotional, cognitive, language and physical development. Students observe children’s play behavior in order to plan and implement developmentally appropriate experiences for young children in a group setting. Creating an inclusive play curricula and developing and implementing special techniques for children with special needs are discussed. Grade only.

CHD 022  ADULT SUPERVISION IN EARLY CHILDHOOD PROGRAMS  2.0 UNITS
Total Lecture: 36 hours
Advisory: CHD 001 and CHD 010
Acceptable for credit: California State University
This course is a study of methods and principles of program and professional assessment, evaluation, and communication appropriate for individuals who supervise adult teachers, parents, and volunteers in early childhood programs. A variety of professional and program instruments, including the National Association for the Education of Young Children (NAEYC) Accreditation self-study materials, designed for use in assessing staff performance and program quality are thoroughly discussed in an in-depth analysis of on-going assessment and its importance in program and professional development. In addition, self-assessment, leadership style, communication styles and career development are examined. This course partially fulfills Child Development Permit requirements for Master Teacher, Site Supervisor or Program Director. Grade only.

CHD 024  POSITIVE GUIDANCE IN EARLY CHILDHOOD PROGRAMS: MANAGING CHALLENGING  3.0 UNITS
Total Lecture: 54 hours
Advisory: CHD 001 and CHD 002
Acceptable for credit: California State University
This course takes a comprehensive look at the genetic, environmental, and cultural factors that impact the behavior of young children. This includes stressors, child temperament, and disabilities. Positive guidance strategies, prevention techniques, supportive relationships, classroom management, observation, and intervention plans are discussed. Grade only.

CHD 025  INCLUSION STRATEGIES AND CURRICULUM IN EARLY CHILDHOOD EDUCATION  3.0 UNITS
Total Lecture: 54 hours
Advisory: CHD 001 and CHD 002
Acceptable for credit: California State University
This course focuses on the theories, research, and practical applications from the fields of both early childhood education and special education. Topics covered include using observation and assessments and implementation of Individual Education Plans (IEP) and Individual Family Service Plans (IFSP). Curriculum modification strategies for children with disabilities are discussed with the goal of meeting their unique developmental needs in inclusive and natural environments. Specific attention is aimed at the role of the teacher as a professional working with families, collaborating with interdisciplinary teams, and creating cultural competence. Grade Only.

CHD 026  INTRODUCTION TO CURRICULUM  3.0 UNITS
Total Lecture: 54 hours
Prerequisite: CHD 001
Acceptable for credit: California State University
The course presents an overview of knowledge and skills related to providing appropriate curriculum and environments for young children from birth to age 6. Students examine the teacher’s role in supporting development and fostering the joy of learning for all young children. Students use observation and assessment strategies emphasizing the essential role of play. An overview of content areas includes but is not limited to: language and literacy, social and emotional learning, sensory learning, art and creativity, math and science. Grade only. C-ID # ECE 130.

CHI 001  FIRST SEMESTER CHINESE  5.0 UNITS
Total Lecture: 90 hours
Acceptable for credit: University of California, California State University
This course is an introduction to the basic oral and written structures of the Mandarin Chinese language. Emphasis is placed on communication and relevancy. Reading and writing is introduced and practiced. Aspects of the Chinese culture in China and Chinese-speaking countries are presented and discussed. Pass/No Pass Option. CSUGE: C2; IGETC: 6A.

CHI 002  SECOND SEMESTER CHINESE  5.0 UNITS
Total Lecture: 90 hours
Prerequisite: CHI 001
Acceptable for credit: University of California, California State University
Chinese 002 is a continuation of Chinese 001 and is an elementary level course. Pass/No Pass Option. CSUGE: C2; IGETC: 3B, 6A.

COM 001  PUBLIC SPEAKING  3.0 UNITS
Total Lecture: 54 hours
Advisory: ENG 001A or ENG 001AX
Acceptable for credit: University of California, California State University
This is a basic course in speech communication that emphasizes the fundamentals of informative and persuasive speaking presented extemporaneously. The theory and techniques that are stressed include: research, critical evaluation, reasoning, organization, style, and delivery; the role of the listener in oral communication; and understanding the audience-speaker relationship. Grade only. C-ID # COMM 110. CSUGE: A1; IGETC: 1C.