ARCH 156. Construction Cost Estimating I (3)
Lec-3, field trips
Procedures and processes in material quantity surveys based on working drawings and specifications. CSU

ARCH 157. Construction Cost Estimating II (3) sp
Lec-3, field trips
Prereq.: ARCH 156
Systematic construction labor and material estimating; survey of a completed set of construction plans and specifications, the pricing thereof, and total construction project costing; routine operations of a construction office or company and an in-depth study of procedures and mechanics of such a company. CSU

ARCH 158. Building Code Applications (3)
Lec-3
Introduction to the history, development, format, and provisions of the Uniform Building Code (latest adopted edition with San Francisco Amendments). CSU

ARCH 159. Code Review of Structural Plans (3)
Lec-3
Prereq.: ARCH 158

ARCH 160. Professional Practice (3)
Lec-3
Survey of general office administration: contract documents, agreements, business aspects of construction, lien laws, codes and zoning ordinances, bid forms, safety and health ordinances. A familiarization with architects’ and contractors’ licensing requirements. CSU

Credit, Degree Applicable Courses:

Art History Courses
The Art History Curriculum offers a wide selection of courses that aid in the understanding and appreciation of the visual arts around the world (101 through 108), a Telecourse, *Art of the Western World* (116), and Selected Topics Courses which offer a more in-depth study of art (121, 122, & 123). All Art History courses may be taken in any sequence.

Advising: college-level reading and writing skills

ART 101. Western Art History (3)
Lec-3, field trips
A survey of Western art from the fifteenth century BC to the fourth century AD. The course will begin with Paleolithic cave painting and continue to the Roman and Early Medieval periods. All art will be discussed from both a critical and historical perspective, with regard to formal visual elements of style and the social context of the values and ideas that gave birth to Western Art. CSU/UC

ART 102. Western Art History (3)
Lec-3, field trips
A survey of Western art from the fourth to the eighteenth centuries AD. The course will begin with the Roman era as an introduction, and continue to the Neo-Classical period. All art will be discussed from both a critical and a historical perspective, with regard to formal visual elements of style and the social context of the values and ideas that gave birth to Western art. CSU/UC

ART 103. Western Art History (3)
Lec-3, field trips
A survey of the developments in modern art from the eighteenth to the twentieth centuries. The course will begin with the period just prior the French Revolution and continue to the present. All art will be discussed from both a critical and a historical perspective, with regard to formal visual elements of style and the values and ideas that gave birth to Western art. CSU/UC

ART 104. Asian Art History (3)
Lec-3, field trips
A survey of the artistic heritages of Asia, from Iran in the west to south-eastern regions of Indonesia, spanning five millennia of Asian art history. Art 104 explores the themes and beliefs which gave unity to the art of this part of the world, as well as the diverse cultural characteristics which led to the development of national styles. CSU/UC

ART 105. Ancient Art and Architecture of Latin America (3)
Lec-3, field trips
A survey of the artistic heritage of Pre-Columbian Mexico, Central, and South America. Art 105 explores the themes and beliefs which gave unity to the art of this part of the world as well as the diverse cultural characteristics which led to the development of regional styles. CSU/UC

Announcement of Courses

The City College Art Department offers students a comprehensive lower division program in the areas of Fine Art and Art History, revolving around the basic CORE program. The Art Department prepares students for transfer to upper division courses in colleges and universities or for direct entry into art careers. All of our courses are acceptable for credit at the University of California.

Fine Arts majors are advised to enroll in one art history course, along with general education and studio course(s). For the recommended sequence of courses in specific areas consult the department head or the fine arts coordinator. It is strongly recommended that all art majors take at least one studio class each semester.

Most advanced classes in the Art Department require that prerequisites be completed before taking those classes. Students who have not completed those prerequisites must demonstrate the exit skills required upon completion of the prerequisite(s). (See specific courses for prerequisite requirements.)

Most art studio courses listed will require a laboratory fee.
ART 106. Latin American Art (3)
Lec-3, field trips
A survey of the artistic heritage of Latin America from the sixteentht century AD to the present. All art will be discussed from both a critical and historical perspective, with regard to formal visual elements of style and the societies, values, and ideas that gave birth to Latin American art. CSU/UC

ART 107. African American Art (3)
Lec-3, field trips
A survey of the heritage of African civilizations and African Americans from the colonial times to the present. All art will be discussed from both a critical and historical perspective, with regard to formal visual elements of style and the societies, values and ideas that gave birth to African-American Art. CSU/UC

ART 108. Women through Art History (3)
Lec-3, field trips
A survey of women in art, investigating their place in society as artists and patrons, as well as subjects in art. The course will introduce women from both European and non-European cultures, from pre-history to the present. All art will be discussed from both a critical and historical perspective, with regard to social context and formal visual elements. CSU/UC

ART 116. Art of the Western World (3)
Lec-3, field trips  CR/NCR avail.
A telecourse introduction to art history from the Classical Greek period to the Modern twentieth century. Art will be discussed in its social context and formal visual elements. The course introduces the societies, values, and ideas that gave birth to Western art, discusses the changing goals of artists and patrons, traces art's relation to power, religion, culture, and the art of the past, and suggests how art defines or contradicts its time. Refer to the Telelesson Schedule for viewing dates and times. CSU/UC

ART 117. Art Criticism and Appreciation (3)
Lec-3
An introduction to the history, theory, and practice of art criticism from antiquity to postmodernism. CSU

ART 118. Art America (3)
Lec-3, field trips  CR/NCR avail.
A history of American art from colonial times to the present. Painting, sculpture, architecture, and crafts will be examined and discussed within the historical, political, and sociocultural background unique to American art. Students will learn to identify major works of art by pivotal artists, recognize the techniques and formal visual elements of art, and critically analyze and evaluate the artwork within the contextual framework in which it was created. CSU

ART 121-122-123. Selected Topics in Art (1-2-3)
Lec-1, 2, or 3  CR/NCR avail.
Repeat: if no subject repeat
An in-depth investigation of selected topics in art, taught at the museums in conjunction with the permanent and special exhibitions at the Legion of Honor and De Young Memorial Museums of Art. CSU/UC

ART 125A. Basic Design (3)
Lec-2, lab-4, field trips
Basic design elements; color; and the concepts, operations, and methods of the design process as related to all well-ordered form. Emphasis on experimentation, exploration, and criticism intended to develop creativity and manipulative ability. CSU/UC/CAN: ART 14

ART 125B. Advanced Design (3)
Lec-2, lab-4, field trips
Prereq.: ART 125A and 130A
Repeat: max. 6 units
Continuation of basic design with emphasis on advanced 2-dimensional and beginning 3-dimensional design. Advanced experimentation in color and reproducible images. Design problems geared to assist the following majors: fine arts, professional arts, photography, theatre arts, fashion, and interior and architectural design. Further exploration and development of creativity. CSU/UC

ART 130A. Basic Drawing (3)
Lec-2, lab-4, field trips
Advise: ART 125A (concur.)
Systematic study of a variety of subject matter: Examination of graphic elements, relationships, properties, and functions within a subject, using various media. Introduction to light, shadow, and perspective. CSU/UC/CAN: ART 8

ART 130B. Intermediate Drawing (3)
Lec-2, lab-4, field trips
Prereq.: ART 125A and 130A
Repeat: max. 6 units
Continued development of drawing skills, with additional approaches to drawing, composition, and varied drawing materials. CSU/UC

ART 131A. Museum Drawing (3)
Lec-2, lab-4, field trips
Prereq.: ART 130A
The Legion of Honor Museum will initially act as the studio/atelier for the continuation of the tradition of museum drawing: development of skills and expansion of abilities in the creation of unique drawings through classroom and museum instruction. CSU

ART 131B. Advanced Museum Drawing (3)
Lec-2, lab-4, field trips
Prereq.: ART 131A
Repeat: max. 6 units
Builds upon skills and techniques already acquired in museum drawing. Development of original sketches and compositions based on major works in the Legion of Honor Museum. CSU

ART 132A. Figure Drawing (3)
Lec-2, lab-4, field trips
Prereq.: ART 130A
ART 132A is strongly recommended for all art majors.
An introduction to the drawing of the nude human figure. Analysis of basic forms, structure, proportion, symmetry, balance, and rhythm. Introductory anatomy. CSU/UC
ART 132B. Figure Drawing (3)  
Lec-2, lab-4, field trips  
Prereq.: ART 132A  
Repeat: max. 6 units  
Advanced study of the drawing of the nude human figure. Analysis of basic forms, structure, proportion, symmetry, balance, and rhythm. Human anatomy. CSU/UC.

ART 136A. Introduction to Illustration (3)  
Lec-2, lab-4, field trips  
Prereq.: ART 125A and 130A  
How to prepare for the profession of illustration and learn the processes by which one gets professional results. Emphasis on ideas and originality, appropriate to the marketplace. Projects include pencil drawing, pen and ink rendering, color posters and some practical projects which may be reproduced on campus. CSU.

ART 136B. Illustration in Color (3)  
Lec-2, lab-4, field trips  
Prereq.: ART 136A  
Practical problems in illustrations with emphasis on contemporary approaches to the subject in color media. Projects include design, visualization and finished work for advertising, public relations and book and periodical publications. CSU.

ART 136C. Portfolio Preparation for Illustration (3)  
Lec-2, lab-4, field trips  
Prereq.: ART 136A  
Repeat: max. 6 units  
Problems in contemporary media: creative visualization and final-image techniques for reproduction. Emphasis on the development of portfolio items suitable for use in the employment or freelance professional interview. Comprehensive layout and the use of type and letterfaces in illustration. CSU.

ART 137. Humorous Illustration (3)  
Lec-2, lab-4  
Prereq.: ART 130A  
Elements of humorous illustration; basics of exaggeration, distortion, and caricature; differentiation of these from the grotesque. Importance of observation and the use of a sketchbook to draw from real life situations. CSU.

ART 140. Painting (3)  
Lec-2, lab-4, field trips.  
Prereq.: ART 125A and 130A  
Studio course in the technical and conceptual basics of painting both in oils and acrylics. Through hands-on practice, lectures, and critiques the student develops the requisite skills and techniques as well as the underlying conceptual and perceptual abilities necessary to painting. In addition, the student is introduced to the historical traditions and the contemporary context of the field. CSU/UC/CAN: ART 10.

ART 140B. Painting (3)  
Lec-2, lab-4  
Prereq.: ART 140A  
Adviser: ART 101, 102, or 103, and 132A  
Repeat: max. 6 units  
Development of painting techniques and style into advanced concepts and the processes of painting. Emphasis will be placed on the development of individual style and interest, with exploration in the experimental use of media and technique. Personal creativity will be stressed and dialogue will be pursued in the broader understanding of aesthetics and contemporary thinking. CSU/UC.

ART 140C. Advanced Painting (3)  
Lec-2, lab-4  
Prereq.: ART 140B  
Focus on the development of a self-directed creative process; building on the concepts, skills, and issues of ART 140B; long-term thematic projects, series projects, and mixed-media assignments leading to advanced-level exploration of contemporary art issues and media. CSU/UC.

ART 141. Acrylic Painting (3)  
Lec-2, lab-4, field trips  
Prereq.: ART 125A and 130A  
Repeat: max. 6 units  
Studio course featuring technical and expressive possibilities of acrylic paints. Develops requisite skills and underlying conceptual and perceptual abilities. Pictorial composition and color theory emphasized; historical traditions and contemporary context. CSU/UC.

ART 145A. Introduction to Watercolor Painting (3)  
Lec-2, lab-4, field trips  
Prereq.: ART 125A and 130A  
Introduction to the materials and techniques of watercolor painting. Instruction and demonstration in the craft of watercolor painting. Exploration of traditional and contemporary problems in the content of art. Emphasis on aesthetic and technical development. CSU/UC.

ART 145B. Advanced Watercolor Painting (3)  
Lec-2, lab-4, field trips  
Prereq.: ART 145A  
Repeat: max. 6 units  
Development of additional skill in the craft of painting with transparent watercolor; exploration of traditional and experimental methods of painted expression; identification of the theoretical and technical means of watercolor painting; studio practice provides experience in solving the problems of visual art content. CSU/UC.

ART 146A. Chinese Brush Painting (3)  
Lec-2, lab-4, field trips.  
Instruction in the art of Oriental brush painting. Extensive practice in brush strokes and composition, as well as an introduction into the relationship of Oriental philosophy and poetry to art. CSU/UC.
ART 146B. Chinese Brush Painting (3)
Lec-2, lab-4, field trips
Repeat: max. 6 units
Continuation of ART 146A with emphasis on artistic development. Investigation of methods of traditional and contemporary Chinese art. Paintings of various subject matter including complex landscapes, flowers, birds, animals and figures. Free brush strokes and meticulous styles. Lectures and demonstrations will be offered with slides and videos. Individual expression will be encouraged by modeling after a series of masterpieces and original works. Group and individual critiques. Outdoor painting and museum visits. CSU

ART 150A. Basic Fine-Art Printmaking (3)
Lec-2, lab-4, field trips
Prereq.: ART 130A
Survey of and practice in the basic print processes of relief, intaglio, collagraph, and monoprint. CSU/UC/CAN: ART 20

ART 150B. Fine-Art Intaglio Printmaking (3)
Lec-2, lab-4, field trips
Prereq.: ART 150A
Repeat: max. 6 units
Individual and class projects in Intaglio printmaking stressing intermediate and advanced levels of proficiency including color multiple plates, viscosity printing, chine colle, mezzotint, sugar lift, salt, and soft ground. Through lecture-demonstration, studio practice and critiques, the student develops the requisite skills and conceptual basis necessary for innovative work in this exciting discipline. CSU/UC

ART 150C. Fine Art Relief Printmaking (3)
Lec-2, lab-4, field trips
Prereq.: ART 150A
Repeat: max. 6 units
The ART 150 series may be taken concurrently and/or out of sequence.
A wider and more complex variety of intermediate and advanced relief printing techniques will be introduced including reduction printing, color multiple plates, varying matrix materials, split fountain roll-ups, segmented plates, and viscosity inking. Emphasis on the student's individual artistic growth and development through the mastery of requisite and conceptual skills. CSU/UC

ART 151A. Beginning Monoprint (3)
Lec-2, lab-4, field trips
Prereq.: Art 130A
Contemporary monoprint techniques, skills and concepts; drawing and painting combined with printmaking. CSU/UC

ART 151B. Intermediate/Advanced Monoprint (3)
Lec-2, lab-4, field trips.
Prereq.: Art 151A
Repeat: max. 6 units
Focus on more complex and advanced techniques in monoprint; stresses the development of individual artistic growth; planning and execution of long term thematic, mixed media, and self-directed projects; exploration of contemporary issues and approaches. CSU/UC

ART 154. Hand Printed Book: Design and Production (3)
ART 154 = GRPH 154

ART 155. Bookbinding (3)
ART 155 = GRPH 155

ART 156. Mixed Media: Works on Paper (3)
Lec-2, studio-4
Prereq.: ART 125A and 130A
Repeat: max. 6 units
This course selectively and aesthetically combines various media and techniques of drawing, painting, photo, printing, and collage into 2 and 3-dimensional works. Through structured studio experience, lectures and critiques, the student will develop the requisite skills and techniques as well as the conceptual basis of this contemporary art form. Underlying the instruction is a historical component which emphasizes modern and contemporary art to broaden the student's interest and awareness of contemporary trends. CSU/UC

ART 160A. Beginning Ceramics (3)
Lec-2, lab-4, field trips
Introduction to developing ceramic forms in a studio atmosphere. Basic methods of ceramic forming through use of the potter's wheel and hand-construction techniques, glaze application, and kiln-firing processes. Lectures on the historical uses of clay and its relationship to the development of civilizations and industry. Emphasis on technical development and exploration of clay as a means for aesthetic growth. CSU/UC/CAN: ART 6

ART 160B. Intermediate Ceramics (3)
Lec-2, lab-4, field trips
Prereq.: ART 160A
Emphasis on wheel-throwing and hand-building skills, and on surface techniques. Introduction to non-technical glaze experimentation. Further development of aesthetics. CSU/UC

ART 160C. Advanced Ceramics (3)
Lec-2, lab-4, field trips
Prereq.: ART 160B
Repeat: max. 6 units
Individual and class projects in ceramic form, clays, and glazes, stressing advanced level of proficiency. The use of both traditional and contemporary methods and attitudes of working with clay. Emphasis on aesthetic development and not on mass-production pottery. CSU/UC

ART 162A. Ceramic Sculpture I (3)
Lec-2, lab-4, field trips
Prereq.: ART 160B
Basic techniques and concepts of ceramic sculpture; use of slip castings, armatures, patinas, burnishing, ceramic and non-ceramic finishes. CSU/UC

ART 162B. Ceramic Sculpture II (3)
Lec-2, lab-4, field trips
Prereq.: ART 162A
Repeat: max. 6 units
Advanced work in theory and practice of ceramic sculpture. Larger pieces, assembled pieces, use of potter's wheel for thrown-and-altered work, wall pieces, hanging and mounting techniques; use of glaze chemistry for custom-designed finishes; independent projects. CSU/UC
ART 170A-170C. Sculpture (3-3)
Lec-2, lab-4, field trips
Prereq.: For ART 170B: ART 170A
For ART 170C: ART 170B
ART 170A. An introduction to the historical evolution of sculpture and the basic elements of three-dimensional form. Exploration of carving, modeling, moldmaking and basic woodworking techniques. Emphasis on technical skill, expression and artistic growth. CSU/UC/CAN: ART 12
ART 170C.
Repeat: max. 6 units
Further advanced processes of sculpture with emphasis on metal work using the welding process. Students will have an opportunity to decide what areas of sculpture they wish to investigate in depth, with instructors' approval and based on previous experience. The successful completion of Art 170B is required in order to take Art 170C. CSU/UC

ART 180A-180C. Metal Arts (3-3)
Lec-2, lab-4, field trips
Prereq.: For ART 180B: ART 180A
For ART 180C: ART 180B
ART 180A. An introduction to basic fabricating processes, i.e., forming, annealing, and soldering of both common and fine metals. Projects vary from engraving to the setting of gemstones, or the making of small sculptures. Survey of the history of metal arts, from the Bronze age to the present. Emphasis on the knowledge and development of manual skills to gain personal aesthetic sense. CSU
ART 180B. An introduction to the basic techniques of lost wax metal casting (centrifuge and vacuum), ranging from jewelry to small sculpture. Instruction includes information about waxes, modeling, sprueing, investing, casting, and finishing. CSU
ART 180C.
Repeat: max. 6 units
An introduction to production techniques, mold making, and advanced casting techniques. This course involves a close look at the development of the student's ideas, from conception to completion, including possible marketing ideas. CSU

ART 185. Portfolio Preparation (3)
Lec-2, lab-4, field trips
Repeat: max. 6 units
This course is designed to enable the art student to organize and present a body of work in an effective and professional manner for transfer, advanced study opportunities and/or career preparation. Through hands-on practice, lectures, demonstrations and critiques, the student gains the requisite skills for portfolio development. CSU

ART 186. The Fine Artist and Business (3)
Lec-2, lab-4
Repeat: max. 6 units
Through lecture, critique, assignments, and class projects artists will learn to promote their work and manage their careers. This section focuses on marketing tools and strategies: researching markets, resumes, pricing, copyright, documentation, and approaching galleries. Macintosh computer applications useful for art business are introduced. Projects include: publicity, postcard publishing, exhibitions of students' work, multiples, and computer projects. CSU

ART 187A-B. Advanced Independent Study (2-2)
Ind st-5
Advise: ART 187A: any advanced level art course
An opportunity for students to perform specialized studies in art with the guidance of an art instructor of their choice. CSU

Asian American Studies Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

ASAM 8. Filipino American Community (3)
Lec-3
Not open to students who have completed ASAM 7
Description and analysis of Filipino American community problems from a sociological viewpoint. Cultural shock and other problems of adaptation of Filipino immigrants considered in light of the carryover from Filipino culture and psychology. CSU/UC

ASAM 20. Asian American Experience: 1820 to Present (3)
Lec-3
CR/NCR avail.
Examination of United States history and government through the experience of immigrant groups to the U.S. from China, Japan, Korea, the Philippines, and India. Topics to be explored include immigration experiences, economic opportunities, culture, family, community, political and social history of the individual immigrant groups. A local field trip may be required. CSU/UC

ASAM 27. Asian American Race Relations (3)
Lec-3
CR/NCR avail.
Understanding of race relations between Asian Americans and other ethnic groups including African Americans and European Americans including theories of race and interaction; and considerations such as class, economics, and social inequalities. CSU/UC

ASAM 30. Asian American Issues Through Film (3)
Lec-3
CR/NCR avail.
Through films, issues of the Asian American experience will be explored. Films will examine the experience of immigrants to the United States from China, Japan, the Philippines, India, and Southeast Asia. Issues to be discussed include identity, immigration, ties to Asia, work, culture, family, community, political policies, stereotypes and social history. CSU/UC
ASAM 35. Asian American Women (3)
Lec-3 CR/NCR avail.
Examination of the lives of Asian American women, using a multi-disciplinary approach which includes literature, poetry, history, political science, anthropology and sociology. Readings, papers and discussions on the social, cultural, political and economic conditions facing Asian American women. Field trip may be required. CSU/UC

ASAM 40. The Chinese American Community (3)
Lec-3 CR/NCR avail.
(No knowledge of Chinese required)
Description and analysis of the Chinese American community from a sociological point of view. The historical background, family and district organizations, power structure, immigrants, culture pattern and conflicts, and the socio-economic problems of the Chinese American community. CSU/UC

ASAM 42. Southeast Asian Community in the U.S. (3)
Lec-3, field trips CR/NCR avail.
Examination of one of the fastest growing Asian American groups in the United States during the past 15 years: mainland Southeast Asian Americans from Vietnam, Laos, and Cambodia. The diversity of the Southeast Asian community will be examined. Topics such as socio-economic adaptation, community organization and family life will be discussed from a sociological viewpoint. CSU/UC

ASAM 45. Pacific Islanders in the United States (3)
Lec-3 CR/NCR avail.
This course will examine the experience of Pacific Islanders in the United States. The history, culture, and development of Hawai‘i will be surveyed, as well as Hawai‘i’s role as a way station in Pacific Islander migration to the United States. The cultural heritage and U.S. immigration experience of Pacific Islanders will be examined. CSU/UC

ASAM 61-62-63. Asian American Community Field Study (1-2-3)
Conf-1, work-5,10,15
Based on fieldwork and supervised community participation, participants in this course will examine the local experience of Asian American and Pacific Island communities. CSU

ASAM 65. Individual Study in Asian American Studies (3)
Ind st-15 CR/NCR avail.
Repeat: max. 9 units
Supervised individual study on topics and issues in Asian American Studies. CSU/UC

Asian Studies
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

ASIA 1. Modern Pacific Asia: An Introduction (3)
Lec-3, field trips CR/NCR avail.
Examination of the modern history, economics, politics, and cultures of the Pacific Basin region; critical analysis of the emergence of the modern Pacific Asia from the 19th century onward as a principal political and economic center of the upcoming century; also an examination of the mutual transformation between East and West, especially in relation to the United States. CSU/UC

ASIA 11. East Asia Calligraphy: An Introduction (3)
Lec-3, field trips CR/NCR avail.
Examination of the historical development and cultural aspects of the East Asian (China, Japan, Korea) calligraphy, with emphasis on Chinese Hanzi but also including Japanese Kana syllabaries and Korean Han'gŭl characters; critical analysis of their relationship with East Asian philosophy, religion, literature, and art. CSU/UC

ASIA 12. East Asian Literature in Film: Early Modern and Modern Era (3)
Lec-3 CR/NCR avail.
Introduction to East Asian (China, Japan, Korean) literature from the early Modern (15th-18th century) to the Modern Era (19th-20th century) through the media of film. Critical analysis of how literature reflects cultural values and social changes. No knowledge of Chinese, Japanese, or Korean required. CSU/UC

ANTH 19. Ethnology of China (3)
Lec-3 CR/NCR avail.
Chinese life-styles, including their historical development through the present day, including language, economics, kinship and marriage patterns. The impact of the Revolution on traditional Chinese culture and resultant changes. CSU/UC

ART 104. Asian Art History (3)
Lec-3, field trips
A survey of the artistic heritages of Asia, from Iran in the west to the south-eastern regions of Indonesia, spanning five millennia of Asian art history. Art 104 explores the themes and beliefs which give unity to the art of this part of the world, as well as the diverse cultural characteristics which led to the development of national styles. CSU/UC

ART 146A. Chinese Brush Painting (3)
Lec-2, lab-4, field trips.
Instruction in the art of Oriental brush painting. Extensive practice in brush strokes and composition, as well as an introduction into the relationship of Oriental philosophy and poetry to art. CSU/UC
ART 146B. Chinese Brush Painting (3)
Lec-2, lab-4, field trips
Repeat: max. 6 units
Continuation of ART 146A with emphasis on artistic development. Investigation of methods of traditional and contemporary Chinese art. Paintings of various subject matter including complex landscapes, flowers, birds, animals and figures. Free brush strokes and meticulous styles. Lectures and demonstrations will be offered with slides and videos. Individual expression will be encouraged by modeling after a series of masterpieces and original works. Group and individual critiques. Outdoor painting and museum visits.

CHINESE LANGUAGE COURSES: See Chinese in this section of the catalog.

CHIN 39. Major Achievements of Chinese Thought and Culture (3)
Lec-3
Advis: Eligible for ENGL 1A
No knowledge of Chinese required. Not open to students who are enrolled in or who have completed CHIN 49.
A consideration of the humanistic traditions of China, the most recent archaeological discoveries, and their relation to those of other countries in East Asia. CSU/UC

CHIN 49. Major Achievements of Chinese Thought and Culture (3)
Lec-3
CR/NCR avail.
No knowledge of Chinese required. Not open to students who are enrolled in or who have completed CHIN 39.
A consideration of the humanistic traditions of China, the most recent archaeological discoveries, and their relation to those of other countries in East Asia. CSU

HLTH 50. Tai Chi for Health (3)
Lec-2.5, lab-1.5
CR/NCR avail.
Tai Chi Chuan is a form of thought and physical movement that incorporates meditation into motion. Emphasis on the philosophical and practical application of Tai Chi thought as it applies to human health and life. Practice of basic Tai Chi Chuan forms (Yang Style). CSU/UC

HIST 33. History of South Asia (3)
Lec-3
CR/NCR avail.
A survey of the history of India, Ceylon, and Pakistan, with emphasis on the development of modern India and its role in international affairs. CSU/UC

HIST 34. History of Japan (3)
Lec-3
CR/NCR avail.
A survey of the history of Japan, with emphasis on the more important political, economic, social, artistic, and cultural aspects of Japanese life as well as on the development of modern Japan and its role in world affairs. CSU/UC

HIST 35A-35B. History of China (3-3)
Lec-3
CR/NCR avail.
HIST 35A not prerequisite to 35B
HIST 35A. Historical, social, political, intellectual, cultural, artistic, and economic development of China from ancient times to approximately 1900. CSU/UC
HIST 35B. Historical, social, political, intellectual, cultural, artistic, and economic developments in twentieth century China. CSU/UC

HIST 36. History of Southeast Asia (3)
Lec-3
CR/NCR avail.
A survey of the history of Southeast Asia, with emphasis on the role of the United States in Southeast Asia. CSU/UC

HIST 44. Comparative History of Overseas Chinese (3)
Lec-3
CR/NCR avail.
The history and social organization of overseas Chinese communities in Southeast Asia, Latin America, and North America from the Eastern Han Dynasty to the present. CSU/UC

IDST 27A-27B-27C. Asian Humanities (3-3-1)
Prereq.: IDST 27A not prerequisite to 27B; For 27C: IDST 27A or 27B
No knowledge of foreign languages required

IDST 27A-27B.
Lec-3
CR/NCR avail.
A team-taught survey of Asian civilizations, especially Arabic-Islamic, Hindu, Chinese, and Japanese cultures. Emphasis on literature, philosophy, religion, and the arts. Explanation, through an interdisciplinary and cross-cultural approach, of the differences and underlying unity of Asian cultures and a comparison with their Western counterparts. Use of the best available English translations of Asian literature along with slides, films, recordings and field trips. Each: CSU/UC

IDST 27C.
Ind st-5
CR/NCR avail.
An independent study/research course under direction of one or more instructors where focus is placed on a specific area of study. CSU/UC

IDST 28. Current Topics and Issues in the Pacific Rim (3)
Lec-3
Emphasis on current affairs and issues in any of the Pacific rim countries. CSU/UC

IDST 37. Ethnic Minorities in the United States (3)
Lec-3
An interdisciplinary survey of the history, culture, problems, and conditions of American ethnic minorities and the effects of racism, prejudice, and discrimination on emerging minority groups in the United States. CSU/UC

JAPANESE LANGUAGE COURSES: See Japanese in this section of the catalog.

KOREAN LANGUAGE COURSES: See Korean in this section of the catalog.
MUS 24. Music of East Asia (3)
Lec-3, lab-1, field trips  CR/NCR avail.
A cross-cultural, comparative survey of both historical and recent developments in the music of China, Japan, and Korea, including the relationship of East Asian music to other aspects of East Asian cultures—philosophy, religion, theatre, dance. CSU/UC

POLS 35. Government and Politics of East Asia (3)
Lec-3  CR/NCR avail.
A survey of political developments and changes in East Asia, with emphasis on the governments and politics of China and Japan. The role of other world powers in this region, including the Soviet Union and the United States. CSU/UC

PSYC 22. The Psychology of Minority Groups (3)
Lec-3  CR/NCR avail.
Not open to students who are enrolled in or who have completed PSYC 23
An examination of the psychological aspects of minority group relations. A psychohistorical analysis of the treatment of African Americans, Asian Americans, Mexican Americans/Latino Americans, and Native Americans in the USA. Emphasis on the strengths and unique contributions of minorities to the USA. CSU

PSYC 23. The Psychology of Minority Groups (3)
Lec-3  CR/NCR avail.
Prereq.: PSYC 1
Not open to students who are enrolled in or who have completed PSYC 22
An examination of the psychological aspects of minority group relations. A psychohistorical analysis of the treatment of African Americans, Asian Americans, Mexican Americans/Latino Americans and Native Americans in the USA. Emphasis on the strengths and unique contributions of minorities to the USA. CSU/UC

Astronomy
Announcement of Courses

CREDIT, DEGREE APPLICABLE

ASTR 1. Cosmic Evolution (3)
Lec-3
No mathematics background required.
The origin and evolution of the universe of galaxies, stars, planets, and life. Knowledge of stellar properties and evolution coupled with study of the origin and evolution of planets, life and intelligence to estimate the possibilities for intelligence elsewhere in the Galaxy. Problems of communication with extraterrestrial civilizations. Conceptual understanding of the universe. CSU/UC

ASTR 12. Celestial Navigation (3)
Lec-3
An introduction to the theory and practice of celestial navigation and piloting emphasizing the use of the pocket calculator. Use of sextant and other navigation equipment under realistic conditions at the College observatory and in the College planetarium. CSU

ASTR 14. Exploring the Universe (3)
Lec-3
(Designed for students who have not completed ASTR 1, 17, 18, or 20 with a final grade of C or higher)
A planetarium-oriented non-math course stressing the observational universe. The universe as seen through the use of telescopes, models, and other visual aids. The great ideas of modern astronomy as well as fundamental ideas in the physical and biological sciences appropriate to understanding the structure of the universe and the origin of life. CSU

ASTR 16. Observational Astronomy (1)
Lab-3
Advis: ASTR 1, 14, 17, or 20
Constellation study and star identification, both in planetarium and under sky; use of star and planet finder with star atlas and other sources of information on current aspects of the heavens, including the annual almanac. Set-up and use of telescopes in the observatory; evaluation and testing of telescopic power and performance, with a wide assortment of accessories, including a CCD camera. CSU/UC

ASTR 17. Solar System (3)
Lec-3
A general introduction to planetary astronomy and the possibility of extraterrestrial life. Emphasis on the history and present characteristics of the planets in our solar system, analysis of the life-support possibilities of the known planets, and the general problem of the origin and probable characteristics of other planetary systems. Recent advances in earth-based and spacecraft research and the challenges of interplanetary and interstellar communication. CSU/UC

ASTR 18. Stars (3)
Lec-3
A general introduction to the characteristics and evolution of stars, the principal producers of energy in the universe. The history, current properties, and future of the sun as a basis for comparison with characteristics of other stars in our galaxy. Energy production by nuclear reactions, synthesis of the elements, and consequences of stellar explosions treated in the context of the physical history of the universe. CSU/UC

ASTR 20. Introduction to Astrophysics (4)
Lec-3, conf-1
Prereq.: ASTR 1, 14, or 17
Intended for students who desire an astronomy course more advanced than the general survey course. Emphasis on the current state of theoretical astrophysics and research astronomy. An opportunity for students to pursue independent research projects or to develop teaching aids for astronomy. The College planetarium and observatory, including the 14-inch Schmidt-Cassegrain optical telescope, are available for such projects. CSU/UC
Automotive Technology
Announcement of Curricula

(Options in Automotive Mechanics and Automotive Metal Repair).

Degree Curriculum

City College offers credit for two years of pre-apprentice training for students seeking employment in the automotive industry. Students may apply the earned credit toward the Associate in Science degree.

Employment. Successful completion of training in this program prepares students for entry employment in the areas of automotive-mechanic and body person apprenticeship. Training will be considered in determining level of entry into apprenticeship.

Admission. Applicants for admission must complete an application form which may be obtained from the automotive-technology adviser at 1400 Evans Avenue training center. All applications are reviewed and evaluated, and the results are forwarded to each applicant.

Recommended High-School Preparation. Preparation is recommended in auto shop, electricity, machine shop, mechanical drawing, and welding.

Counseling. The automotive-technology adviser consults individually with students in order to help each student select a program best suited to the student’s interests and abilities.

General Education. Instruction in general education is included so that students may satisfy the College graduation requirements in this area.

Associate in Science Degree and Award of Achievement. Students who wish to earn an Associate in Science degree must complete the general-education requirements for graduation from the College and additional electives. Students who satisfy these requirements and complete either of the options in the Curriculum receive the degree of Associate in Science and the Award of Achievement in Automotive Technology. Such students are advised to consult with a College counselor.

Courses Required for the Award of Achievement in Automotive Technology
Option in Automotive Mechanics
First Semester
Course       Units
AUTO 100 Intro to Auto Tech  8
Additional graduation requirements

Second Semester
AUTO 101 Brakes, Suspension, Alignment  8
Additional graduation requirements

Third Semester
AUTO 102 Automotive Engines  8
Additional graduation requirements

Fourth Semester
AUTO 103 Auto Elect Systems  8
Additional graduation requirements

Fifth Semester
AUTO 104 Auto Drivetrain Tech  8
Additional graduation requirements

Option in Automotive Body and Fender Repair
First Semester
AUTO 120 Automotive Welding  6
Additional graduation requirements

Second Semester
AUTO 121 Metal Repair &amp; Welding  8
Additional graduation requirements

Third Semester
AUTO 122 Panels, Glass, Trim &amp; Hardware  8
Additional graduation requirements

Fourth Semester
AUTO 123 Frame Straightening &amp; Aligning  8
Additional graduation requirements

Fifth Semester
AUTO 124A Surface Prep and Paint  5
AUTO 124B Surface Prep and Paint  5
Additional graduation requirements

Certificate Program

Admission. Enrollment in either curricula is open to all interested students.

Credit Toward Graduation. All credit that students earn in obtaining the Certificate of Completion in either curricula may also be applied toward satisfaction of the requirements for graduation from the College.

Certificate Curriculum in Automotive Mechanics

Students may obtain the Certificate of Completion in Automotive Mechanics by completing the following courses with final grades of C or higher:

Course       Units
AUTO 100 Intro to Auto Tech  8
AUTO 101 Brakes, Suspension, Alignment  8
AUTO 102 Auto Engines  8
AUTO 103 Auto Elect System  8
AUTO 104 Auto Drivetrain Tech  8

Certificate Curriculum in Automotive Metal Repair

Students may obtain the Certificate of Completion in Automotive Metal Repair by completing the following courses with final grades of C or higher:
Course Units
AUTO 120 Automotive Welding .................. 6
AUTO 121 Metal Repair & Welding ............ 8
AUTO 122 Panels, Glass, Trim & Hardware ... 8
AUTO 123 Frame Straightening & Aligning .. 8
AUTO 124A Surface Prep and Paint ..........  5
AUTO 124B Surface Prep and Paint ...........  5

Courses in this subject area require a special materials fee.

Automotive Mechanics

Program Goal. Prepares students for entry level employment as automotive mechanics. Curriculum includes overhaul of automotive engines, drive trains, fuel, cooling and electrical systems.

Admission Requirements. High school diploma, GED, or high school proficiency certificate. Demonstration by exam of an 8th grade reading, math, and language level. Remedial instruction may be taken concurrently.

Core Course Units
AUTO 100 Intro to Auto Tech .................. 8
AUTO 101 Brakes, Suspension, & Alignment .. 8
AUTO 102 Auto Engines .......................... 8
AUTO 103 Electrical Systems .................. 8
AUTO 104 Drive Train Technology .............. 8
SECY 9346 Effective Bus Comm (as needed) ..  5
SECY 9356 Bus Math (as needed) ..............  5

Requirements for Completion. Completion of required courses with grade C or higher.

Offered by: Automotive Technology Dept., 1400 Evans Ave., phone: 550-4409

Automotive Body and Fender Repair

Program Goal. Prepares students for entry level employment as automotive metal (body and fender) mechanics. Curriculum includes body/fender repair, assembly and disassembly of panels and accessories, frame straightening, aligning body/fender surface, and painting.

Admission Requirements. High school diploma, GED, or high school proficiency certificate. Demonstrate by exam an 8th grade reading, math, and language level.

Core Course Units
AUTO 120 Automotive Welding .................. 6
AUTO 121 Welding & Auto Body Repair ........ 8
AUTO 122 Panels, Glass, Trim & Hardware ...  8
AUTO 123 Frame Straight & Align ..............  8
AUTO 124A Surface Prep & Paint ...............  5
AUTO 134B Surface Prep & Paint ...............  5
SECY 9346 Effective Bus Comm (as needed) ..  5
SECY 9356 Bus Math (as needed) ..............  5

Requirements for Completion. Completion of required courses with grade C or higher.

Offered by: Automotive Technology Dept., 1400 Evans Ave., phone: 550-4409

Automotive Technology Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

AUTO 100. Introduction to Auto Technology (8)
Lec-8, lab-4, field trips
Prereq.: All students entering the Automotive Technology Program must take the City College placement tests in English and Mathematics and must review these results with a vocational counselor.
An orientation to the automobile, automotive design, construction, operation, ethics, and the automotive industry. Technical vocabulary, basic automotive components and systems, safety procedures, measurement and computational skills; use and interpretation of automotive information and specifications; use of basic tools and measuring devices used in automotive repair; entry level shop practicum. CSU

AUTO 101. Brakes, Suspension, Alignment (8)
Lec-5, lab-10, field trips
Prereq.: AUTO 100
Repair, adjustments, and overhaul of passenger car brakes and suspension systems; development of critical thinking skills necessary for analysis and diagnosis of failure and performance problems of these systems. CSU

AUTO 102. Automotive Engines (8)
Lec-5, lab-10, field trips
Prereq.: AUTO 100
Principles of construction and operation of automotive engines and their systems; design and operation of the internal combustion engine. Use of tools and equipment to perform service and repair of mock-ups; A.S.E. Test Preparation. CSU

AUTO 103. Automotive Electrical Systems (8)
Lec-5, lab-10, field trips
Prereq.: AUTO 100
Maintenance and repair of automotive systems including generators, alternators, regulators, starters, ignition components; theory and practice in diagnosis and test equipment; A.S.E. Test Preparation. CSU

AUTO 104. Automotive Drivetrain Technology (8)
Lec-5, lab-10, field trips
Prereq.: AUTO 100
Preparation for entry level employment as an Automotive Drivetrain Technician. Develop skills and technical knowledge in servicing clutches, manual and automatic transmissions, front wheel drive transaxles, 4-wheel drive transfer cases, drive shafts, and differentials. Upon completion, students will be eligible to take the National License Test for Drivetrain Technician. CSU
AUTO 105. Auto Electronics I (Advanced Tune-Up) (3)
Lec-2, lab-4, field trips
Advisory: Eligible for ENGL 94 or ESL 82, and MATH 840
Development of skills and practices used in automotive tuneups to manufacturers' specifications. Including use of electronic scopes, meters, test equipment, diagnosis of malfunctions, the exhaust emission control systems, ignition scopes, power cylinder balance, tach and dwell meters, infrared meters, percentages of monoxides, carburation, electricity, and other concepts and practices. CSU

AUTO 106. Auto Electronics II - Electrical Diagnosis (1.5)
Lec-2, lab-4, field trips (8 wks.)
Prereq.: AUTO 105
A study of and practice in electronic diagnosis and repair of automotive electrical systems using modern electronic testing equipment, including the use of electrical and electronic testing equipment; the use and interpretation of wiring diagrams, shop manuals, common practices for trouble shooting electrical problems and other practices. CSU

AUTO 107. Auto Electronics III (Fuel Injection) (3)
Lec-2, lab-4, field trips
Prereq.: AUTO 105, 106
Study of automotive and small truck fuel injection systems emphasizing the basic principles of diagnosis and repair of these systems. Using bench and operational vehicle systems and including the trouble shooting fuel injection systems. CSU

AUTO 109. Auto Electronics V-Ford Computers (1.5)
Lec-2, lab-4, field trips (8 wks.)
Prereq.: AUTO 107, and ESL 82 or ENGL 96
The history, operation, and diagnosis of Ford's Electronic Engine Control systems (EEC), Distributorless Ignition System (DIS), ABS brakes, and other Ford computer controlled systems. Emphasis on the use of special test equipment and proper diagnostic procedures. CSU

AUTO 109A. Advanced Ford Computers (1.5)
Lec-2, lab-4 (8 wks.)
Not open to students who have taken AUTO 109
Repeat: max. 4.5 units
Review and practice of diagnosis of FORD's Electronic Engine Control systems, Distributorless Ignition System, ABS brakes and other FORD computer controlled systems. CSU

AUTO 110. Diesel Engines (8)
Lec-5, lab-10, field trips
Prereq.: AUTO 100, 102
Operational systems in a diesel engine and introduction to the special tools and equipment used in the maintenance; preparation to take the A.S.E. National License Test. CSU

AUTO 111. Auto Electronics VI-G.M. Computers (1.5)
Lec-2, lab-4, field trips (8 wks.)
Prereq.: AUTO 107
Diagnosis and repair of General Motors automotive computers and related systems, General Motors including the identification and analysis of problems, trouble shooting practices and maintenance of unit; the procedures for diagnosis of computer units including removal, disassembly, repair, reassembly, and replacement of units in General Motors manufactured vehicles. CSU

AUTO 112. Clean Air Car Course (3)
Lec-3, lab-4, field trips
Advisory: Eligible for ENGL 94 or ESL 82 or English 96, MATH E, or BUS G, H, or J; two years experience in tune-up and smog related repairs or equivalent as automotive student.
Repeat: max. 9 units
Preparation for the Bureau of Automotive Repair (BAR) smog license test: basic electricity, ignition systems, fuel systems, smog control systems, automotive computer systems, and an update on current California smog laws, rules and regulations pertaining to automobile pollution; preparing for the BAR test. CSU

AUTO 113. Gasoline Engines Diagnosis and Repair (3)
Lec-2, lab-4, field trips
Advisory: Eligible for ENGL 94 or ESL 82 and MATH 840
Study of all aspects of gasoline engine components, diagnosis, disassembly, repair, reassembly, and use of various tools and equipment covering ignition, fuel, emission, and computer controls systems. CSU

AUTO 120. Automotive Welding (6)
Lec-5, lab-10
Prereq.: ENGL 90 or ESL 72; MATH 840
Development of proficiency in automotive repair welding and experiencing welding and cutting techniques used in the repair. Includes welding and cutting techniques, equipment, and current safety/environmental trade practice. CSU

AUTO 121. Metal Repair and Welding (8)
Lec-5, lab-10, field trips
Principles of modern automobile construction; basic techniques of electric-arc and oxyacetylene welding as applied to automotive metal repair; principles of expansion and contraction applied to reclamation of damaged structures; preparation for A.S.E. Certification. CSU

AUTO 122. Panels, Glass, Trim and Hardware (8)
Lec-5, lab-10, field trips
Procedures related to the assembly and disassembly of automotive body and fender components. Removal and replacement of side panels, bumpers, windshields and windows, broken braces and inner structural members, and trim moldings. CSU

AUTO 123. Frame Straightening and Aligning (8)
Lec-5, lab-10, field trips
Techniques of straightening and aligning automotive frames and structural members using alignment rack and testing equipment. Application of hand tools and equipment to align frames, torsion bars, axles, wheels and steering mechanisms. Preparation for A.S.E. Certification. CSU

AUTO 124A. Surface Preparation and Painting (5)
Lec-5, lab-10, field trips
Prereq.: ESL 82, ENGL 92, or placement in ENGL 94; MATH 840
Basic phases of auto body paint/finish repair techniques. Topics include metal and plastic surface preparation using both chemical and mechanical processes, masking techniques and materials, and various methods of paint/finish applications. Color matching and clear coating of modern automotive coatings as well as trim service. Current safety/environmental trade practices. Pending NATEF approval. CSU
AUTO 124B. Surface Preparation and Painting (5)
Lec-5, lab-10, field trips
Coreq.: AUTO 124A
Advanced phases of auto body paint/finish repair techniques including preparing metal and plastic surfaces, masking, and painting/finishing. Modern automotive coatings and trim service. Current safety and environmental trade practices. Pending NATEF approval. CSU

AUTO 125. Body Repair and Refinishing (3)
Lec-2, lab-4, field trips
Advisory: Eligible for ENGL 94 or ESL 82 and MATH 840
Repair and refinishing of automotive bodies and fenders including recommended practices for repair of body parts, frame straightening and alignment, basic soldering, plastic filler materials and techniques, gas and arc welding, mig welding, preparation of surfaces, painting, finishing and detailing, estimating of labor, materials, parts and supplies for auto body repair. CSU

AUTO 126. Principles of Autobody Fender Repair and Welding (3)
Lec-2, lab-4, field trips
Repeat: max. 9 units
Principles of metal working, including uni-body, frame repair and alignment. Includes also metal finishing techniques, such as MIG and oxy-body solder. CSU

AUTO 127. Preparation and Refinishing (3)
Lec-2, lab-4, field trips
Repeat: max. 9 units
Procedures for removing old finishes, moldings, trim. Preparation of surfaces, sanding, filling, scratching, using putty and primers, techniques of mixing paints, applying paints, use of spray and polishing equipment. CSU

AUTO 128. Frame Straightening and Alignment (3)
Lec-2, lab-4, field trips
Repeat: max. 9 units
Techniques and procedures applied to straightening and aligning automotive frames and structural members using alignment rack and equipment. Application of tools and measuring devices to align frames and uni-bodies. CSU

AUTO 129. Vehicle Accessories, Trim and Hardware (3)
Lec-2, lab-4, field trips
Repeat: max. 9 units
Procedures related to assembly and disassembly of automotive body and fender components. Removal and replacement of side panels, windshields, braces, inner structural members, trim, upholstery, moldings and bumper assemblies. CSU

AUTO 131. Electrical Vehicle Conversion (3)
Lec-2, lab-4, field trips
Repeat: max. 9 units
The history and artistry of early electric vehicles and the impact of American culture and economics on the development of alternative fueled vehicles and vice-versa. How to analyze and evaluate fossil fueled vehicles as candidates for electric power conversion. Hands-on application of basic electrical systems design and diagnosis, electric vehicle control, power train systems theory operation and installation, and vehicle body modification and fabrication of parts. CSU

AUTO 132. Special Paint Applications (3)
Lec-2, lab-4, field trips
Repeat: max. 9 units

AUTO 133. Work Experience (4)
Lec-1, work-240
Prereq.: Concurrent enrollment in at least 7 semester units including this course. Written consent of the auto mechanics instructor.
Advisory: Completion of at least 8 semester units of Automotive program courses with final grades of C or higher
Repeat: max. 12 units
Supervised employment involving automotive related duties. CSU

AUTO 134. Work Experience - Smog Intern Paid (4)
Lec-1, work-300
Prereq.: AUTO 103 or 112 and 133; Concurrent enrollment in at least 7 semester units including this course. Written consent of the auto mechanics instructor.
Advisory: Completion of at least 8 additional semester units of Automotive program courses with final grades of C or higher
Repeat: max. 12 units
Supervised employment involving automotive related duties as related to Smog Repairs. Student must provide tune-up hand tools (i.e., spark rockets, ratchets, timing light). CSU

AUTO 135. Domestic Electronic Engine Controls OBD-I-II (3)
Lec-3, lab-3, field trips
Repeat: max. 9 units
An in depth study into Domestic Automotive Engine Computer Control OBD-I-II Systems. Exploration of the operation, diagnosis, and repair of Domestic Automotive Electronic Engine Computer Control Systems. General diagnosis will be emphasized using multimeters, scan tools, manuals, and lab scopes. CSU

AUTO 136. Engine Performance (1.5)
Lec-3, lab-3 (8 wks), field trips
Repeat: max. 4.5 units
A study of the engine subsystems responsible for good engine performance, clean air, and fuel economy. Basic study of ignition, fuel, emission systems, and driveability diagnostics. General diagnosis will be emphasized using multimeters, scan tools, manuals, and lab scopes. CSU

AUTO 137. Gaseous Alternative Fuel Systems (3)
Lec-3, lab-1 (18 wks), field trips
Repeat: max. 9 units
A course to familiarize students with the following as related to gaseous fuels: 1)purpose of alternative fuels, 2)alternative fuels legislation, 3)refueling procedures, 4)fuel system inspection, 5)system components nomenclature, 6)system adjustment, 7)component replacement, 8)driveability and diagnosis. CSU
AUTO 138. Automatic Transmissions and Transaxles (3)
Lec-2, lab-4, field trips
Repeat: max: 9 units
An in-depth study of automatic transmissions and transaxles. Basic study of electronic controls. General diagnosing using manuals, multimeters, flow charts and scan tools, along with pressure gauges. CSU

LABR 96B. Labor Relations in the Automotive Industry (3)
Lec-3, field trips
CR/NCR avail.
A study of labor relations in the automotive mechanic and body repair industries, including its history, present status and current issues. Patterns of ownership, workplace structures, the changing work force, management practices, unionization, workers' rights and current concerns. A thorough analysis of automotive industry labor relations. CSU

NONCREDIT COURSES:

TIAU 9510. Advanced Suspension, Alignment and Brakes (108 hrs)
Development of advanced skills in suspension alignment and brake systems. Emphasis is on theory and actual shop experience.

TIAU 9513. Basic Auto Maintenance (54 hrs)
Emphasis is on the proper operation, maintenance, and interdependence of the various units of the automobile. Includes the design and construction of the engine and the various systems of the automobile.

TIAU 9530. Air Conditioning, Automotive (48 hrs)
Prereq.: TIAU 9512; HSEN 2287
Repair of automotive air conditioning systems including identifying problems, troubleshooting, practices, leak detection and maintenance procedures. Includes diagnosis, removal, repair, reassembly of components and replacement of units for automotive air conditioning systems.

TIAU 9532. Lamp License Preparation, Automotive (48 hrs)
Prereq.: TIAU 9512; HSEN 2287
Preparation for the State of California Automotive Lamp Adjusting License. Includes practices and procedures for the installation and adjustment of motor vehicle lamp systems and study of California laws and regulations related to the installation and adjustment of motor vehicle lamp systems.

TIAU 9533. Brake License Preparation, Automotive (48 hrs)
Prereq.: TIAU 9515
Preparation for the State of California Automotive Brake Adjusting License. Repair and maintenance of automotive brake systems consistent with California regulations pertaining to brake adjusting and station operation, and with industrial standards. Completion of certificates of compliance under California regulations.

TIAU 9535. Smog Control For Levels I & II (16 hrs)
Prereq.: TIAU 9522; TIAU 9511; TIAU 9512; TIAU 9515
Study of and practice in automotive smog systems in reference to California Requirements. Level I includes use of smog check inspection & repair manuals, emission control system applications guide, automotive emission control repair manual and completion of the California Inspection worksheet. Level II includes use of a BAR approved TAS analyzer for vehicle inspection, performance of functional test procedures and performance of complete inspections on a minimum of five vehicles.

TIAU 9538. Automotive Electronics VII Computers/Chrysler (48 hrs)
Prereq.: TIAU 9512; TIAU 9539
Diagnosis and repair of automotive computers and related systems in Chrysler manufactured vehicles. Instruction includes the identification and analysis of problems, trouble shooting practices and maintenance of units. Also covered are the procedures for diagnosis of computer units, removal, disassembly, repair, reassembly and replacement of units in Chrysler manufactured vehicles.

TIAU 9539. Automotive Electronics IV Introduction to Computers (48 hrs)
Prereq.: ABE 2074; TIAU 9523; TIAU 9512
Concepts, principles and practices for automotive computers and control systems including demonstrated use of testing meters and circuit testing devices. Students will demonstrate concepts and practices for diagnosis and testing. Instruction includes reasons for computer controls, solidstate ignition systems, how computers work, twelve (12) computer functions in automobiles and input and output devices used in automobiles.

TIAU 9541. Emission Control and Computer Systems (108 hrs)
Prereq.: TIAU 9517; TIAU 9536; TIAU 9539
Diagnosis and repair of automotive emission control and computer systems.

Biological Sciences
Announcement of Curricula

Biotechnology
Certificate Program
In addition to their regular course offerings (listed below), the Biology and Chemistry Departments jointly offer a certificate in biotechnology. This program offers qualified students training as laboratory technicians in the rapidly expanding job market of the biotechnology industry. The curriculum is designed to give a strong chemistry and molecular biology foundation for entry level employment in the areas of manufacturing, quality control, quality assurance, and research and development.

The program combines two years of study at City College of San Francisco with high school preparatory courses (or City College equivalents) to give students laboratory, computer, and communication skills identified by industry scientists as necessary for employment.
Admission. Completion of the following high school courses or their equivalents is required to enter the program:

1. one year of high school biology with laboratory (or BIO 9),
2. one year of high school physics (college preparatory or conceptual) with laboratory, or Principles of Technology, or PHYC 10 and PHYC 10L,
3. one year of high school chemistry (college preparatory or conceptual) with laboratory or CHEM 30 and CHEM 31, or CHEM 40,
4. one year of high school algebra or MATH 840.

The following are strongly recommended:

- one semester of high school computer science or COMP 9252,
- one year of high school geometry or MATH 850 or MATH 855,
- one year of high school intermediate algebra or MATH 860.

Courses Required for the Biotechnology Certificate

First Semester (Fall)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 11* Intro. to the Science of Living Organisms...</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 50† Chemistry for Biotechnology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 51 Laboratory for Biotechnology</td>
<td>2</td>
</tr>
<tr>
<td>SPEECH 12 Fundamentals of Oral Communication or ESL 79 Adv. Speaking and Pronunciation</td>
<td>3</td>
</tr>
<tr>
<td>Additional graduation requirements (for AS)</td>
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Second Semester (Spring)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 52 Chemistry for Biotechnology II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 53 Laboratory for Biotechnology</td>
<td>2</td>
</tr>
<tr>
<td>ENGL 94 Inter Expos. Read &amp; Writ Tech or ESL 82 Advanced Composition</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 55 or CHEM 55 Ethical Issues in Science</td>
<td>3</td>
</tr>
<tr>
<td>Additional graduation requirements (for AS)</td>
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Third Semester (Fall)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 60 Molecular and Cell Biotechnology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 107 Computers in Chemistry</td>
<td>2</td>
</tr>
<tr>
<td>ET 114 Health Effects of Envir Haz Mat's</td>
<td>3</td>
</tr>
<tr>
<td>Recommended technical elective: BIO 81-84 or CHEM 81-84</td>
<td></td>
</tr>
<tr>
<td>Instrumentation</td>
<td>1-4</td>
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<tr>
<td>Additional graduation requirements (for AS)</td>
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Fourth Semester (Spring)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 65 Recombinant DNA Biotechnology</td>
<td>5</td>
</tr>
<tr>
<td>Recommended technical elective BIO 91, 92 or 93</td>
<td></td>
</tr>
<tr>
<td>Biology Work Experience</td>
<td>1-3</td>
</tr>
<tr>
<td>Additional graduation requirements (for AS)</td>
<td></td>
</tr>
</tbody>
</table>

* BIO 1A and BIO 1B may be substituted for BIO 11. Students should be aware that course choices in biology will affect transfer to four-year institutions for those seeking a degree in biology.

† CHEM 101A may be substituted for CHEM 50. Students should be aware that course choices in chemistry will affect transfer to four-year institutions for those seeking a degree in biology or chemistry.

Call the Biology Department (415) 239-3645 or the Chemistry Department (415) 239-3377 for more information.

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**Biological Sciences**

**Announcements of Courses**

**CREDIT, DEGREE APPLICABLE COURSES:**

**Anatomy**

ANAT 14. Introduction to Human Anatomy and Physiology (4)
Lec-3, lab-3

Not open to students who have completed ANAT 25 or PHYS 12 with a C or higher

An integrated course covering the fundamental principles of human anatomy and physiology. CSU/UC

ANAT 25. General Human Anatomy (4)
Lec-3, lab-3

CR/NCR avail.

Study of the gross and microscopic structure of the human body. CSU/UC/CAN: BIOL 10

ANAT 26. Cross Sectional Anatomy (1)
Lab-3

Prereq.: ANAT 25 (concur.)
Coreq.: RADL 50A or 50B

Study of the gross structure of the human body according to region as visualized in cross sections and sagittal sections. CSU/UC/CAN: BIOL 10

ANAT 47-48-49. Special Projects in Anatomy (1-2-3)
Lab-3, 6, 9

Dissection of the human cadaver under the supervision and guidance of a member of the anatomy faculty. CSU

**Anthropology**

ANTH 1. Biological Anthropology (3)
Lec-3

CR/NCR avail.

The biological nature of humans and the changes that have occurred from prehistoric times to the present. The place of humans in nature, vertebrate and primate evolution, fossil evidence for human antiquity, individual and population genetics, mechanisms of evolution, and human variation. CSU/UC/CAN: ANTH 2

**Biology**

BIO 1A-1B. General Biology (5-5)
1A: Lec-3, conf-1, lab-3

Prereq.: 1 yr. HS bio. or BIO 11 and CHEM 101A (concur.)

Organismic form, function, ecology and evolution. CSU/UC;

BIO 1A+1B: CAN: BIOL SEQ A
1B: Lec-3, conf-1, lab-3

Prereq.: 1 yr. HS bio. and CHEM 101A

Advise: CHEM 208

Genetics, cell structure, function, and energetics. CSU/UC/CAN: BIOL 2; BIO 1A+1B: BIOL SEQ A

BIO 9. Human Biology (4)
Lec-3, lab-3, field trips

An introduction to general biological principles through the study of the structure and functions of the human body and directly related organisms. CSU
BIO 11. Introduction to the Science of Living Organisms (4)
Lec-3, lab-3, field trips  CR/NCR avail.
Not open to students who have taken BIO 1A or 1B, or BOT 10, or ZOOL 10
A survey course of major topics in Biological Science with emphasis on contemporary field and laboratory techniques. Topics include a survey of plants, animals, and microbes; cell biology; heredity; ecology; and recent advances in biology. CSU/UC

BIO 15. The Biology of HIV (3)
Lec-3, field trips  CR/NCR avail.
Introductory survey of the biology of human immunodeficiency virus (HIV) and AIDS. The life cycle of HIV and retroviruses; HIV transmission, epidemiology, immunology, and pathogenesis; and HIV prevention and treatment. CSU

BIO 20. Introduction to Ecology (3)
Lec-3, field trips
Not open to students who have completed BIO 20A
Ecological principles and methods. Introduction to population, community, and ecosystem ecology. Analysis of the interrelationships between organisms and their environments. Investigation of terrestrial, freshwater, and marine environments. CSU/UC

BIO 21. Natural History of California (2) Weekend
Lec-1, lab-3, field trips  CR/NCR avail.
A series of field trips to specific California ecosystems; emphasis on the general concepts of ecosystem analysis and the interaction of climate, physiography, and biotic factors in shaping varied habitats within California. CSU

BIO 22. Natural History of the Sierra Nevada (1)
Lec-1, lab-3, field trip  CR/NCR avail.
An examination of the geology, biology, and human history of the Sierra Nevada from Lake Tahoe basin to high altitude. A study of the interrelationships of plants, animals, and humans at high elevation. CSU

BIO 23. Ecology of Mendocino (1)
Lec-1, lab-3, field trip  CR/NCR avail.
Not open to students who have completed BIO 81, Selected Topic: Ecology of Mendocino.
An examination of the geology, biology and human history of Mendocino County. A study of the interrelationships of plants, animals and humans to the forests and coastal regions of Northern California. CSU

BIO 24. Ecology of Point Reyes (1)
Lec-1, lab-3, field trip  CR/NCR avail.
Not open to students who have completed BIO 81, Selected Topic: Ecology of Point Reyes.
An examination of the geology, biology and human history of Point Reyes National Seashore. A study of the interrelationships of plants, animals and humans to the forests, grasslands and coastal regions of the park. CSU

BIO 25. Ecology of San Francisco Bay (1)
Lec-1, lab-3, field trip  CR/NCR avail.
An examination of the geology, biology, chemistry, and human history of San Francisco Bay. An analysis of the interrelationships of plants, animals, and humans to the diverse ecosystems which comprise the San Francisco Bay. Investigation of the terrestrial, freshwater and marine environments. CSU

BIO 30. Ecology and the Human Environment (3)
Lec-3, field trips
Not open to students who have completed BIO 20B.
Examination of the human environment with emphasis on the causes of human-made pollution, health effects, and possible solutions. CSU/UC

BIO 40. Natural History of Plants and Animals (3)
Lec-3  CR/NCR avail.
Behavior, habitats, life histories, and identification of the common plants and animals of the Bay Area and northern California. CSU/UC

BIO 50. Briefing in Genetic Engineering: Principles, Processes, Products, and Prospects (1)
Lec-1  CR/NCR avail.
Introduction to some of the underlying principles of genetics, enzyme function, chemical processes and laboratory procedures involved in recombinant DNA technology. Examples of new products, processes, and prospects for the future in industry and medicine; implications for society. CSU

BIO 55. Ethical Issues in Science (3)
Lec-3, field trips
Principles of ethics and their applications in scientific work; case studies drawn from areas of current concern in biotechnology, genetic engineering, and other scientific fields. CSU

BIO 60. Molecular and Cell Biotechnology (5)
Lec-3, lab-6, field trips  CR/NCR avail.
Advis: CHEM 50, 51, 52, 53, and BIO 11
A thorough introduction to the principles and techniques of molecular and cell biology. CSU

BIO 65. Recombinant DNA Biotechnology (5)
Lec-3, lab-6, field trips  CR/NCR avail.
Advis: CHEM 50, 51, 52, 53, and BIO 11
An in-depth coverage of recombinant DNA concepts and laboratory principles; emphasis on laboratory practices in the form of hands-on experience in techniques of recombinant DNA science laboratory procedures, techniques of data collection and analysis, and laboratory report development and presentation. CSU

BIO 71-72-73-74. Selected Topics in Biology (1-4)
Lec-1, 2, 3; lab-3; field trips  CR/NCR avail.
Prereq.: topic dependent
Repeat: if no subject repeat
Investigation in depth of selected topics in biology: considering current issues and innovations; expanding subjects covered briefly in introductory courses; or exploring topics not studied in other classes in biology. CSU
BIO 81-82-83-84. Selected Topics in Biology (1-4)
Lec-1, 2, 3; lab-3; field trips CR/NCR avail.
Repeat: if no subject repeat
Investigation in depth of selected topics in biology: considering current issues and innovations; expanding subjects covered briefly in introductory courses; or exploring topics not studied in other classes in biology. CSU

BIO 90. Biology Laboratory (0)
Lab-var
Prereq.: concur. biology course
An open laboratory in which students may complete or reinforce their biology laboratory work. CSU

BIO 91-92-93. Biology Work Experience (1-2-3)
Work-5, 10, 15 CR/NCR avail.
Repeat: BIO 91, 92, & 93 no more than 4 times total
On-campus work consists of instruction and experience in the preparation, care, and maintenance of equipment, materials, training aids, and specimens used in the Biology Department. The student may also be employed, or serve as a volunteer, in a biology-related setting under the supervision of a qualified professional and faculty member. CSU

Botany
BOT 10. Plant Biology (4) sp
Lec-3, lab-3, field trips
General fundamental knowledge building about plants; emphasis on the structure, metabolism, life history, and evolutionary relationships of the major groups of plants. Lectures on plant ecology, world vegetation types, and commercial uses of plants. CSU/UC/CAN: BIOL 6

Microbiology
M B 12. Introduction to Microbiology (4)
Lec-3, lab-4, field trips CR/NCR avail.
An introduction to microbiology, treating the fundamentals of form and function of microorganisms such as bacteria, fungi, protozoa, and viruses. Emphasis on the role of microorganisms in the transmission of infectious disease and in the development of the immune response. CSU/UC

M B 51. Sanitation Principles and Practices (1)
Lec-1
Principles of buying, storing, preparing, and serving food to ensure the safety of food for human consumption; the importance and practice of sanitary habits by food service personnel; causes of food poisoning and food spoilage; the principles and practices of public health and food service managerial procedures to ensure sanitary food for the public; public health laws. CSU

Nutrition
NUTR 12. Introduction to Nutrition (3)
Lec-3 CR/NCR avail.
The nature and physiological roles of the dietary nutrients, their food sources and requirements. Relation of diet to health and disease, evaluation of dietary adequacy. Examination of current issues and controversies in nutrition. CSU/UC/CAN: H EC 2

NUTR 51. Elementary Nutrition (2)
Lec-2 CR/NCR avail.
a non-technical presentation dealing with foods, the relation of food to the human body, and a plan for healthy eating. CSU

Genetics
GEN 10. Heredity and Evolution (3) fa
Lec-3 CR/NCR avail.
A general survey of the basic principles of organic evolution. Classical and population genetics, molecular genetics, chromosomal aberrations, variation, natural selection, adaptive radiation, theories of the origin of life. CSU/UC

GEN 11. Genetics laboratory (1)
Lab-3
The laboratory will consist of experiments with primarily Drosophila and microorganisms for studying both principles of Mendelian and molecular genetics. CSU/UC

GEN 15. Human Genetics and Human Affairs (3)
Lec-3 CR/NCR avail.
Basic principles of human genetics. Genetics in development, health and behavior. Family and population genetics. Effects of mutation, assortive mating, and reproductive rates upon gene distribution. Problems anticipated from projected advances in "human engineering". CSU/UC

Physiology
PHYS 1. Introductory Human Physiology (5)
Lec-3, lab-6
The physiology of cells, muscles, the nervous system, sensation, digestion, circulation, respiration, metabolism, excretion, endocrines, and reproduction. CSU/UC/CAN: BIOL 12

PHYS 12. Introduction to Human Physiology (4)
Lec-3, lab-3 Not open to students who have completed PHYS 1
Fundamental principles of human physiology. CSU/UC

Zoology
ZOO 10. Animal Biology (4)
Lec-3, lab-3 Not open for credit to students who have taken BIO 1A, 1B, 11, or PHYS 1
A survey of biological principles as applied to animals including humans. CSU/UC
Broadcast Electronic Media Arts

General Information
The Broadcast Electronic Media Arts department prepares students for university transfer and provides lifelong learners and degree holders the opportunity to upgrade workplace skills and prepare for career transition. Graduates either transfer to a university or seek employment in radio, television, video production, cable, broadcast news, advertising, public relations, sound reinforcement, music recording, interactive media, corporate, and industrial media production.

Program Emphasis. The department offers instruction in the design and creation of content for the electronic media with focus on writing, storytelling, teamwork, leadership, production craft skills, and emerging technologies. Media literacy is emphasized throughout the curriculum.

Certificate Programs. Pending departmental submission of curricula to the Office of the State Chancellor and the State’s approval of that curriculum, City College of San Francisco will offer a Broadcast Electronic Media Arts certificate with four concentrations of study:
1. Video Production and Editing.
2. Sound Design and Production.
3. Radio Production Programming and Management.
4. Broadcast Journalism

In addition, the department collaborates with nine other departments to offer an interdisciplinary Multimedia Image and Sound certificate. All classes are taught with industry standards as a guide. Certificate programs are recommended for degree holders and lifelong learners seeking to upgrade and retool workforce skills.

Admission. Enrollment is open to all interested students. Please note that some classes have prerequisites, corequisites, and advisories.

Work Experience and Internships. Students enrolled in Broadcast Electronic Media Arts classes refine skills in an in-house internship program which provides the College with media services, video production services, programming for education access television, and support for the college public relations office. After basic thinking and production craft skills are mastered, students are supported in internships at industry sites such as radio stations, television stations, video production houses, sound recording studios, and emerging media companies.

Transfer Information. All Broadcast Electronic Media Arts courses are credit and degree applicable, and selected courses transfer to the CSU and/or UC systems. Students are encouraged to work with a college counselor and a department program advisor to establish and education plan during the first semester of study. For additional information consult the “Transfer Information” section of this catalog.

Facilities and Equipment. Broadcast Electronic Media Arts facilities are undergoing extensive upgrades which include installation of a digital video editing lab, digital audio production lab, hybrid sound recording studio, teleproduction studio, and a digital cable FM radio station. San Francisco’s Educational Access Television Channel 52 cable casts citywide from the department’s facilities.

Additional Information. Consult the Department Chair for more information at (415) 239-3527.

Degree Curriculum
Associate in Arts Degree and Award of Achievement
Pending Local and State approval, the Broadcast Electronic Media Arts university transfer course sequence will satisfy the requirements for graduation from the College. Students who complete general education requirements and satisfy major requirements with a grade of C or higher will earn an Associate of Arts Degree. Students will receive an Award of Achievement in Broadcast Electronic Media Arts when they complete the required program of study with final grades of B or higher.

The first two semesters introduce the student to the impact of the electronic media within the context of the global market place. Media literacy, industry history, economic and legal issues, current technology, library orientation and research, and career orientation are emphasized. The third and fourth semesters emphasize a refinement of research, writing, and production skills. Throughout these remaining two semesters students learning and apply management skills such as leadership and teamwork to production management, emerging technologies, and broadcast systems.

Degree oriented and transfer students are strongly encouraged to register in a wide range of general education classes. Consult a college counselor and the Transfer Center to assure that the courses you select are appropriate for your education plan.

Courses Required for an Award of Achievement in Broadcast Electronic Media Arts
First Semester
Course                                Units
BCST 100 Intro to BCST Electronic Media .......... 3
BCST 120 Audio Production                    3
LIBR 51 Intro to Library Materials ............. 3
BCST 109 Broadcast Lab                      0
General Education Requirements ............... 6

Second Semester
BCST 140 Video Production                    3
BCST 101 Media Literacy                     3
BCST 109 Broadcast Lab                      0
General Education Requirements ............... 9

Third Semester
BCST 110 Writing for BCST Electronic Media .... 3
ENGL 1A Reading and Composition .......... 3
General Education Requirements ............... 9

Fourth Semester
BCST 143 Digital Video Editing
or BCST 144 Desktop Video .......... 3
BCST 109 Broadcast Lab                      0
English 1B Reading and Composition .......... 3
General Education Requirements ............... 9
Multimedia Image and Sound

Multimedia Studies is a multi-discipline curriculum in the design, development, tools, and production of computer-based interactive media. Four areas of concentration include Multimedia Design and Graphics, Multimedia Image and Sound, Multimedia Performance Arts, and Multimedia Computer Programming. (See Multimedia Studies in the Interdisciplinary Studies section of this catalog for complete details.)

Multimedia Image and Sound combines instruction and practice with concepts, techniques, and technology of audio and video production for interactive digital media. This course of study prepares students for entry-level positions in multimedia image and sound production. Graduates seek employment producing CD ROM titles, world wide web pages, electronic books, and other interactive media.

Announcement of Courses

Students enrolled in Broadcast Electronic Media Arts lecture and laboratory courses may be required to purchase additional materials such as audio tape, videotape, headphones, floppy disks, Zip cartridges, jazz cartridges, DAT tape, and digital multitrack hi-8 tape. Students may be charged a materials use fee.

CREDIT, DEGREE APPLICABLE

BCST 100. Introduction to Broadcast Electronic Media Arts (3)
Lec-3
Advis: Eligible for ENGL 96 or ESL 72
An introduction to major electronic media institutions such as radio, television, and cable. A survey of emerging technologies such as direct satellite broadcast, interactive television, webcasting, and their application to broadcast electronic media. Emphasis on organization history, political development, operation, regulation, programming, business practices, and career orientation. CSU

BCST 101. Media Literacy (3)
Lec-3
Advis: SPCH IA
Critical analysis of structure, economics, aesthetics, language, and technical aspects of radio, television, cable, and satellite programming. Methods of interpreting the visual and oral messages present in news, entertainment, and advertising. Impact of emerging technologies on program content and form. CSU

BCST 102. New Media: Navigating the Information Age (3)
Lec-3
Survey of new electronic media such as interactive teleconferencing and videoconferencing, direct broadcast satellite, digital radio and television, interactive television, desktop audio and video production, virtual news sets, holographic sportscasts, webcasting, computer-based broadcast news production, multimedia, digital cable, and wireless systems. Application of communication theories and research using technological, historical, social, and political perspectives. Impact of emerging communication technologies on broadcast electronic media. CSU

BCST 103. Mass Media and Society (3)
Lec-3
A general interest course covering the history, organization and social role of major mass communication media, such as radio, television, motion pictures, print, recording industries, multimedia, the Internet, and the World Wide Web. Basic theory of communication and communication research. Emphasis on the influence of mass media on the individual and society. CSU/UC

BCST 104. Minorities and Mass Media (3)
Lec-3
A historical study of the image of African Americans, Asians, Hispanics, and other minorities as projected through the mass media of print, film, radio, television, and recorded music. Ways in which minorities have responded to the image through general and ethnic media outlets. CSU/UC

BCST 105. Women and Mass Media (3)
Lec-3, field trips
An exploration of the mass mediated messages—radio, television, film, and print—about women. A critique of roles given women. An update on opportunities for women in each of the mainstream and alternative media industries. CSU

BCST 106. Queer TV: Television and Lesbian and Gay Identity (3)
Lec-3
Advis: Eligible for ENGL 96
Examination of how gays, lesbians, bisexuals, and transgendered people are represented in and by the mainstream electronic media with strong emphasis on television. CSU

BCST 109. Broadcast Production Laboratory (0)
Lec-8
Coreq.: Enrollment in a laboratory course in broadcasting Supervised radio, audio, video, television, and sound recording production facilities and equipment for students to complete broadcast production assignments given in broadcast electronic media arts production classes. CSU

BCST 110. Writing for Broadcast Electronic Media (3)
Lec-3
Prereq.: BCST 100 and able to type 30 words per minute Techniques of non-dramatic writing for electronic media including television, radio, cable, satellite, and webcast. Critique of professional and student scripts including commercials, news, public service announcements, infomercials, news services, and information providers. CSU

BCST 112. Investigative Reporting for Broadcast Electronic Media (3)
Lec-3
Prereq.: BCST 110
Investigative techniques used in radio television, cable, and webcast news. Research methods, interviewing methods, reporting techniques, story development techniques, story analysis, and writing methods for electronic media news. Introduction to digital media news gathering skills and news equipment, World Wide Web news gathering, and electronic news reporting by world media services and organizations. CSU
BCST 113. Broadcast Journalism (3)
Lec-3, lab-3
Prereq.: BCST 110 and 115
Adviser: JOUR 21, BCST 120, 130, and 140
Repeat: max. 6 units
Writing, announcing, producing, packaging, and evaluating radio, television, cable, and satellite news. An examination of news formats, news judgment, social impact, and broadcast news ethics. Impact of emerging technologies on broadcast news. CSU

BCST 115. Announcing and Performance (3)
Lec-3
Prereq.: BCST 120 (concur.)
Adviser: BCST 100 and BCST 110
Introduction to interpretation of copy, pronunciation, and announcer's duties for radio, television, cable, and webcast. Practical experience announcing commercials, news, public service, and other kinds of programs. Performance skills are developed through regular use of audio/video facilities and equipment. CSU

BCST 117. Sports Announcing and Production (3)
Lec-3, lab-3
Repeat: max. 6 units
Prereq.: BCST 115 and 131 or 140 or equivalent skills
All aspects of sports announcing and production for radio, television, cable, satellite, and the Internet. An exploration of sports coverage history, issues, technology, production, play-by-play announcing, color announcing, and career opportunities. Students will announce and produce live and live-on-tape broadcasts of City College sports events. CSU

BCST 119. Digital Media Skills for Broadcast and Film (3)
Lec-2, lab-1, conf-1
Repeat: max. 6 units
A hands-on overview of computer operations, industry standard software and other equipment common to digital radio, video, audio, and film production and editing. Introduction to the issues and impact of new technology in the audio, radio, video, film industries. An examination of bandwidth, compression, cross-platform movement of audio, radio, video, and film media, media storage, and manipulation of media in the digital realm. CSU

BCST 120. Audio Production (3)
Lec-3, lab-4
Theoretical and aesthetic aspects of sound, acoustics, audio signal flow, sound recording, sound mixing, sound for video, and sound reinforcement. Proper use of microphones, recorders, mixing boards, and other common audio production equipment. Introduction to digital sound design. CSU

BCST 124. Digital Audio Production (3)
Lec-3, lab-3
Prereq.: BCST 120
Repeat: max. 6 units
Introduction to the digital audio production process. Basic skills of the entertainment/communications/multimedia industries including techniques and equipment currently used in digital audio production. CSU

BCST 125. Sound Recording Studio (4)
Lec-3, lab-6
Prereq.: BCST 120
Repeat: max. 8 units
Advanced multitrack digital and analog production techniques such as recording, editing, mixing and mastering, microphone placement for musical ensembles, instruments, vocals, and voice, multi-output board signal flow, music mixing theory, sampling, equalization, limiting, compression, reverb-eration systems and recording techniques. Production of various types of multi-track studio packages such as demonstration tapes and compact discs, audio tracks for music videos, interview programs, commercial spots, documentaries, and drama. CSU

BCST 127. Advanced Sound Recording (3)
Lec-3, lab-3, field trip
Prereq.: BCST 125
Repeat: max. 6 units
A theory and project-intensive course examining and imple-menting those skills required for the production of advanced digital multitrack audio presentations. Students will develop the skills necessary to produce complex digital audio projects used for music production, used as sound-for-video and film, and used for audio sweetening. An examination of post-production digital recording and mixing techniques appropriate for sound reinforcement, sound design, and mastering on compact disc. CSU

BCST 130. Radio News and Public Affairs (3)
Lec-2, lab-5
Prereq.: BCST 100 (concur.), BCST 110 (concur.)
Repeat: max. 6 units
Practical experience in researching and writing on-air copy for news, public affairs, and promotions. Introduction to specific digital technology created for radio. Composition and development of digitized audio news packages. Web search of story content; developing news beat assignments and sourcing interviews for radio stories. Comprehension of when/why/how music and sound would enhance or detract from a news package. Students write all aired content for KCSF cable FM, City College of San Francisco's student managed and student staffed radio station. CSU

BCST 131. Radio Production and Performance (3)
Lec-2, lab-5, field trips
Prereq.: BCST 115 (concur.), BCST 120 (concur.)
Repeat: max. 6 units
Practical experience in radio production work and on-air announcing. Students serve as announcers, news reporters, on-air personalities, and air board operators for City College of San Francisco's closed circuit AM and cable FM radio station KCSF. CSU
BCST 132. Management Skills for Radio (4)
Lec-2, lab-8
Advise: BCST 130 and 131
Repeat: max. 8 units
Practical experience managing individuals and small groups within a non-commercial and commercial radio station. A laboratory experience for understanding the dynamics of motivating people to perform creatively and skillfully within the skills sets required of a radio management team. Performance of key tasks which operate RCS digital software system, i.e., Selector and Linker software; supervising the programming and scheduling of the music format for KCSF radio. CSU

BCST 140. Video Production (3)
Lec-2, lab-4
Prereq.: BCST 120 (concur.)
Theory and operation of video production equipment and facilities. Video production planning and organization, concept development, program design, project documentation, and production management. Production of studio-based video programming for Cable Television Channel 52 and the district's Media Services video production unit. CSU

BCST 142. Television Studio Operations (3)
Lec-2, lab-4
A basic introduction to video production facilities, equipment, and operations for advanced students in advertising, architecture, design and illustration, electronic engineering, film production, journalism, photography, graphic communications, and theatre arts. CSU

BCST 143. Digital Video Editing (3)
Lec-3, lab-3
Prereq.: BCST 140 or FILM 24, plus IDST 120 or CIS 100M, or equivalent skills
Repeat: max. 6 units
Digital video editing for video and film projects using industry standard AVID Xpress and Media Composer software on a Macintosh platform. Organizing the video edit, routing a networked video signal, digitizing video signal, creating the EDL, editing theory, editing principles, editing aesthetics, titling and 2D/3D effects, and output of final product from network to videotape. Students complete several short video editing projects. CSU

BCST 144. Desktop Video (3)
Lec-3, lab-3
Prereq.: BCST 140 or FILM 24, plus IDST 120, CIS 100M, or equivalent skills
An introduction to desktop video skills for consumer, multimedia, and film projects using Adobe Premiere video editing software on a Macintosh platform. CSU

BCST 145. Advanced Video Production (4)
Lec-3, lab-6
Prereq.: BCST 140
Repeat: max. 8 units
Technical and aesthetic elements of electronic video field production. Concept development, pre-production, production, and post-production. An emphasis on videographing and editing video packages using the following systems: off-line cuts only, SMPTE time-code on-line, and non-linear computer-based editing workstation. Creation of video packages for Education Access Television Channel 52 and for patrons of the College's Media Services instructional video production unit. CSU

BCST 146. Digital Video Effects (3)
Lec-3, lab-3
Prereq.: BCST 143 or equivalent
Repeat: max. 6 units
A survey of video and television production effects using studio, field, and post-production equipment. Emphasis on use of Adobe AfterEffects, Boris 3-D, AVID MXpress, Adobe Premiere, and others. Focus is on practical instruction in a video studio and a digital production environment. CSU

BCST 147. Video Post-Production Editing (3)
Lec-3, lab-6
Prereq.: BCST 145 or FILM 125B; IDST 120
Repeat: max. 6 units
Advanced, computer-based post production editing using EDL-run linear and non-linear editing systems. Emphasis on A-B roll editing, edit list management, digital video effects, integration of graphics and keys, and video layering. Use of systems such as Avid and Media 100 to edit your own pre-shot video or film to create programs for air, theatrical, or multimedia use. CSU

BCST 150. Special Projects (2)
Conf-1, lab-2, work-3, field trips
CR/NCR avail.
Prereq.: BCST 100, BCST 101, or BCST 103; and BCST 110 or 120; and BCST 140 or 145
Repeat: max. 6 units
Work on an independent electronic media communications project acceptable to both the student and the instructor. Only a project having significant value in the field of broadcast electronic media arts will be approved. CSU

BCST 155-156-157 Selected Topics in BCST Electronic Media Arts (1-2-3)
Lec-1, 2, 3
Repeat: if no subject repeat
Selected topics in Broadcast Electronic Media Arts are explored through lectures, discussions, seminars, industry panels, media conferences, satellite downlinks, teleconferences, workshops, film, video, and/or television leading to a critical analysis and understanding of the topic under examination. CSU
BCST 160A-160B-160C. College Internship (2-2-2)
Lec/conf-1.5, work-8     CR/NCR avail.
Prereq.: BCST 100
On-campus work experience in an approved on-campus
media related installation within the college such as Broadcast
Media Services, Educational Access Television, KCSP Radio,
and the Public Information Office. Resume writing, communi-
cation skills, and job interview techniques. CSU

BCST 165A-165B. Industry Internship (2-2)
Lec-1.5, work-8     CR/NCR avail.
Prereq.: BCST 100, 110, 120, and 125, 130, or 140
Repeat: max. 6 units
Observation and supervised off-campus experience in an
approved broadcast electronic media industry installation such
as a television station, a television station, a video produc-
tion firm, a radio station, a music recording studio or business,
a corporate media production department, or a multimedia pro-
duction team. Resume writing, communication skills, and job
interview techniques. CSU

LABR 96F. Labor Relations in Broadcasting (3)
Lec-3, field trips     CR/NCR avail.
A study of labor relations in the broadcasting industry, includ-
ing its history, present status and current issues. Patterns of
ownership, workplace structures, the changing work force,
management practices, unionization, workers' rights and
current concerns. A thorough analysis of broadcasting industry
labor relations. CSU

Business
Announcement of Curricula

General Information
For students who desire business training leading directly to
their employment, City College of San Francisco offers two-
year credit courses of study in ten fields: accounting, business
office information processing, finance, paralegal/legal studies,
merchandising, real estate, supervisory practices, travel and
tourism, and word processing.

Admission. Enrollment in the Business Program is open to
all interested students. In some curricula, however, students
must satisfy prerequisites before being admitted to certain
courses.

Instruction in Business and General Education. Training
is designed to help students acquire a high degree of tech-
nical skill, familiarize themselves with business principles and
procedures, and develop the sense of responsibility essential
to success. Each curriculum in the Credit Business Programs
includes instruction in both a major field and related subjects
such as business correspondence, speech, and business math-
ematics. Instruction in general education is included so that
students may satisfy the College graduation requirements in
this area.

Work-Experience Training. Students enrolled in the Credit
Business Program may obtain credit for experience in their
major fields by enrolling in work experience courses. Students
are supervised by both employers and instructors.

Students may offer toward graduation a maximum of six
semester units of credit earned in off- or on-campus work-
experience courses or in any combination of both.

Associate in Science Degree and Award of Achieve-
ment. The Business Program is designed so that students may
satisfy the requirements for graduation from the College. Upon
successful completion of the curriculum, students receive the
Associate in Science degree. Students who satisfy these require-
ments and complete any of the curricula with an average final
grade of C plus (2.50 grade-point average) or higher receive
the Award of Achievement.

Transfer Information. Students in the Business Program
who intend to transfer to other colleges or universities should
consult their academic advisers and their counselors and
should consult the section of this catalog entitled, "Transfer In-
formation."

Noncredit Certificate Programs. These programs provide
directed training for employment in the modern office.
Computer skills, communication skills, and job preparation
courses are emphasized in the noncredit sequences to prepare
students for entry-level clerical employment.

Accounting
Degree Curriculum
Students who satisfactorily complete the Curriculum in
Accounting, a two-year course of study, are qualified for em-
ployment as junior accountants in private, public, and civil-
service accounting and as junior auditors in private and civil-
service accounting. Positions to which graduates have
advanced after gaining experience and undertaking further
study include those of accounting supervisor, senior account-
ant, and senior auditor.

The course of study includes instruction in principles of
accounting, intermediate accounting, auditing, cost accounting,
microcomputer accounting, and income-tax procedure.

Students who complete the accounting courses with an
average final grade of C plus (2.50 grade-point average) or
higher receive the Award of Achievement in Accounting.

Courses Required for the Award of Achievement in
Accounting
First Semester
Course                              Units
ACCT 1 Fin Acct...................... 4
MABS 60 Microcomp Appl-Bus .......... 3
BSMA 66 or 68 Bus Math or Math of Bus...... 4 or 3
Additional graduation requirements

Second Semester
Course                              Units
ACCT 2 Managerial Acct ................ 4
BSEN 74 Bus Corresp.................. 3
ACCT 59 Income Tax Proc.............. 3
MABS 101 Spreadsheets for Bus/Excel ...... 3
Additional graduation requirements