Some courses may be taken on a credit/no credit or a letter grade basis. Others may be taken only on a credit/no credit basis. This is indicated by “CR/NC avail.” and “CR/NC only” respectively on the same line as the delivery pattern. In this symbolism “avail.” means the “CR” (credit) or “NC” (no credit) grades are available for the course instead of the regular grades of “A” through “F” if the election to take the course for credit/no credit is made at registration or by the end of the first 30% of the term of offering for the course. If no notation occurs regarding credit/no credit, the course is a “letter grade only” course.

Other pertinent information about the course including pre-requisites (Prereq.:), corequisites (Coreq.:), advisories on recommended preparation (Advise), repeatability (Repeat.), and exclusions follow the delivery pattern. Sometimes a course listed as a prerequisite may be taken concurrently with the course being described; in which case, “concur.” in parenthesis following the course number indicates that.

A basic description of the course content generally concludes the course announcement. At the end of this description, the abbreviation CSU indicates that the course satisfies a general education (breadth) requirement for any California State University, the abbreviation UC indicates that the course is acceptable at all campuses of the University of California, and the abbreviation CAN indicates that the course has been awarded a number that insures transferability to postsecondary educational institutions in California. CAN numbers are listed at the end of the “Transfer Information” section of the catalog.

If recently the course had a different CCSF course number or if an equivalent CCSF course exists, that information will be the last item in the announcement, for example “Formerly ENGL 5A” or “SPAN 2A-2B = SPAN 2.” If the course has been taken under its former number and a grade of C or better or of CR has been earned, the newly numbered course may not be taken because the two are really the same. In addition, if two courses are listed as equivalent, only one of the two may be taken.

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Administration of Justice and Fire Science
Announcement of Curricula

General Information
This Department offers curricula in two fields—administration of justice and fire-science technology. Each curriculum is designed to prepare students for civil-service and related private employment at the end of two years of training, and also satisfy the requirements for graduation from the College. A description of the program follows.

Administration of Justice Degree Curriculum
The curriculum in administration of justice is designed to meet the needs of three groups of students: those who plan to seek employment with public and private agencies concerned with maintaining public safety, crime prevention, treatment, rehabilitation and research; those who are employed by a correctional or law-enforcement agency and desire to obtain training for promotion; and those who desire to obtain background in administration of justice in preparation for the study of law or social welfare.

Admission. Enrollment is open to all interested students.

Course of Study. The two-year course of study includes instruction in the following: introduction to law enforcement, administration of justice, police organization and administration, criminal identification, criminal law, criminal evidence, criminal investigation, physical evidence, narcotic investigation, patrol procedures, juvenile procedures, and police field work. Besides training in administration of justice, the curriculum includes instruction in general education so that students may satisfy the College graduation requirements in this area.

Credit for Preservice Training in Administration of Justice. Administration of Justice majors who have completed a minimum of 12 semester units at City College, and who have also completed a preservice administration of justice-training program certified by the Commission on Peace Officers Standards and Training of the Department of Justice of the State of California, may petition the Administration of Justice Department for six semester units to be applied toward completion of the curriculum in administration of justice. A transcript or other acceptable evidence of completion of the preservice training program must be submitted with the petition.

Approval of Instruction. The curriculum is offered in cooperation with local agencies concerned with the administration of justice and is reviewed annually by an advisory committee composed of persons active in the field of law enforcement. In-service courses within the curriculum are certified by the Commission on Peace Officers Standards and Training of the Department of Justice of the State of California.

Employment. Students who complete the curriculum satisfactorily may be qualified to take civil-service examinations for employment with federal, state, county, and city agencies in capacities such as the following: investigator; identification, highway patrol, or correctional officer; police officer; or deputy sheriff. Graduates are also qualified for employment as private investigators and private security officers.

Associate in Science Degree and Award of Achievement. The course of study is designed so that students may satisfy the requirements for graduation from the College. Students who satisfy the graduation requirements and who complete 18 units in administration of justice with a final grade of C (2.00 grade-point average) or higher receive the Award of Achievement in Administration of Justice. The 18 units should be chosen according to the student’s educational and occupational objectives.
Courses Required for the Award of Achievement in Administration of Justice
First Semester
Course                                      Units
ADMJ 52 Concepts of Criminal Law ............. 3  
ADMJ 57 Intro to the Adminstr of Justice ........ 3  
Additional graduation requirements ........... 9  

Second Semester
ADMJ 51 Juvenile Procedures
  or ADMJ 80 Parole and Probation Sys ........ 3  
ADMJ 53 Legal Aspects of Evidence ............. 3  
Additional graduation requirements ........... 9  

Third Semester
ADMJ 54 Prin and Proc of the Justice Sys ....... 3  
ADMJ 59 Organized Crime and Gangs .............. 3  
ADMJ 62 Criminal Investigation ................ 3  
Additional graduation requirements ........... 6  

Fourth Semester
ADMJ 64 Community Relations
  or ADMJ 65 Narcotic Investigations .......... 3  
ADMJ 63 Criminal Identification
  or ADMJ 66 Physical Evidence ................. 3  
Additional graduation requirements .......... 9  

Recommended electives: BSEN 70; F SC 62; HUM 11; PHIL 12A, 40; POLIS 7, 20; PSYC 1, 22, 23; SOC 1, 2, 20, 30, 35; WDPR 79; ZOOL 10.

Degree Curriculum
Associate in Science Degree and Award of Achievement. Students who satisfy the requirements for graduation from the College and who complete 18 units of Fire Science including the five "Core Courses," with a final grade of C (2.00 grade-point average) or higher will receive the Award of Achievement in Fire Science.

Courses Required for the Award of Achievement in Fire-Science Technology
First Semester
Course                                      Units
F SC 50 Intro to Fire Sci* ..................... 3  
F SC 52A Fire Protection Equip & Sys* ........ 3  
F SC 64 Fire Behavior & Combustion* .......... 3  
BSEN 74 Bus Corresp
  or BSEN 76 Tech Rept Writing ................. 3  
Additional graduation requirements .......... 3  

Second Semester
F SC 53 Bldg Constr & Fire* .................... 3  
F SC 61A Fund of Fire Prevent* ................. 3  
SPCH 11 Public Speaking
  or SPCH 12 Oral Communication ............... 3  
Additional graduation requirements .......... 6  

Third Semester
F SC 55 Wildland Fire Control ................. 3  
F SC 60 Fire Apparatus & Equip ................. 3  
HLTH 17 Public Safety - First Responder
  or EMT 101 EMT-Fire Serv 3-7-5 .............. 3  
Additional graduation requirements .......... 2-4  

Fourth Semester
F SC 51A Fire Tactics & Strategy .............. 3  
F SC 62 Rescue Practices ....................... 3  
F SC 70 Fire Investigation ..................... 3  
Additional graduation requirements .......... 6  

*Core courses

Recommended electives: F SC 61B, 110, and all FSM courses

Certificate Programs
The certificate programs are designed to meet the needs of students who want to obtain entry-level positions in the fire protection field whether in the public or the private sector. They also provide a course of study for the student who is currently employed in public fire suppression that leads to a rating of fire officer after completing the eight two-unit courses which mirror the California State Fire Marshal's course content. These programs also provide an opportunity for students returning to college after completing a degree in other fields to earn a certificate in fire protection or earn a rating of fire officer without completing the general education requirements for graduation from City College. Two certificate programs are available: a certificate in fire protection and a certificate as a fire officer which can also be applied for through the State Fire Marshal's Office.

Requirements for the Certificate of Completion. A student may obtain the Certificate of Completion by completing each of the courses offered in the certificate program...
Administration of Justice
Certificate
The certificate program is designed to meet the needs of students who want to obtain entry-level positions and/or promotional positions within law enforcement agencies in the public sector and employment within the private sector. It also provides students who are currently employed in law enforcement an opportunity to increase their knowledge in the field of Administration of Justice and will enhance their skills and abilities as police officers, correctional officers, probation and/or parole officers, investigators and private security officers. This program also provides an opportunity for students returning to college after completing an Associate of Arts/Science or Baccalaureate degree in other fields to earn a certificate in Administration of Justice without completing the general education requirements for graduation from City College.

Certificate in Administration of Justice
This program is for returning students who might have an Associate of Arts/Science or a Baccalaureate degree in another field who want a certificate in Administration of Justice for employment purposes or for career advancement. This certificate is also available for persons who do not choose to complete the general education requirements for graduation and receive an Award of Achievement. Fifteen (15) units of Administration of Justice courses are required, and at least 9 units must be completed at City College of San Francisco for this certificate.

Requirements for the Certificate of Completion
A student may obtain the Certificate of Completion by completing 15 units from each of the courses offered in the certificate program with a grade of C or higher while at City College. Credit/No-Credit grades will not be accepted toward completion of a certificate program.

Successful Completion of the Following Courses May Be Applied Toward the Certificate (15 units required)

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Units</th>
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<tbody>
<tr>
<td>ADMJ 51 Juvenile Procedures</td>
<td>3</td>
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<tr>
<td>ADMJ 52 Concepts of Criminal Law</td>
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<tr>
<td>ADMJ 59 Organized Crime and Gangs</td>
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<tr>
<td>ADMJ 62 Criminal Investigation</td>
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<td>ADMJ 64 Community Relations</td>
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<td>ADMJ 65 Narcotic Investigations</td>
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<tr>
<td>ADMJ 66 Physical Evidence</td>
<td>3</td>
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<tr>
<td>ADMJ 80 Parole and Probation</td>
<td>3</td>
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</tbody>
</table>

Fire Officer Certificate
This certification follows the course content of the California Fire Service Training and Education System's (CFSTES) recommendations. Each course offered utilized the training manuals published by this organization, each course is registered with the CFSTES, and the instructors are registered instructors with the CFSTES.

The certificate program is open to persons who are currently employed as firefighters or who want to become firefighters and at the completion of these courses City College will award a certificate as fire officer. If one wants to apply for this rating through the State Fire Marshal's Office one has to follow the guidelines established by the SFM (this procedure is outlined during each course by the instructor). There are eight two-units courses and eight units must be completed at City College of San Francisco to receive the certificate from City College.

Fire Protection Certificate
This program is for returning students who have a college degree in another field but who want a certificate in Fire Protection for employment purposes or for career advancement. It is also available for persons who do not want to complete the general education requirements for graduation. All five core courses are required and at least nine units must be completed at City College of San Francisco for this certificate in Fire Protection.

Forensic Identification Certificate
This certificate program is designed to meet the needs of students who want to obtain entry-level positions and/or promotional position in law enforcement agencies within the public sector and employment within the private sector. It also provides the student who is currently employed in law enforcement an opportunity to increase their knowledge in the field of forensic identification and enhance their skills and abilities as an investigator.
Requirements for the Certificate of Completion
A student may obtain the Certificate of Completion by completing each of the courses offered in the certificate program with a grade of C or higher while at City College. Credit/No-Credit grades will not be accepted toward completion of a certificate program. All five core courses are required and at least 9 units must be completed at City College of San Francisco for this certificate.

First Semester
Course                                      Units
ADMJ 52 Concepts of Criminal Law            3
ADMJ 62 Criminal Investigation               3
ADMJ 63 Criminal Identification             3

Second Semester
ADMJ 66 Physical Evidence                   3
ADMJ 53 Legal Aspects of Evidence           3

Fire Safety Director Certificate
Noncredit Certificate Program
Program Goal. This 27-hour certificate program teaches prevention, basic fire protection, and preparation of a high-rise fire safety plan. The course provides a study of exit problems, use of fire extinguishers, special extinguishing systems, and fire alarms. The Fire Safety Director's responsibilities and activities are studied and analyzed. Guidelines and policies affecting his/her office will be researched thoroughly. The trainee works with a model of a central control console. Appropriate codes and laws pertaining to high-rise buildings are studied.

Admission Requirements. None

Core Course                                      Hours/Weeks
TIXX 9686 Fire Safety Director                  27/3

Requirements for Completion. Three-quarters or more attendance and satisfactorily passing an examination that includes state and city/county regulations for fire safety and disaster preparedness.

Offered by: Fire Science at the Phelan Campus, telephone 239-3359

Administration of Justice and Fire Science
Announcement of Courses

Administration of Justice
CREDIT, DEGREE APPLICABLE COURSES:

ADMJ 51. Juvenile Procedures (3)
Lec-3
The causes of juvenile delinquency on a local and state level. The organization, functions, and jurisdiction of juvenile agencies; new studies and theories in the processing and detention of juveniles; practical case studies; new research in delinquency control; juvenile statutes and court procedures. CSU

ADMJ 52. Concepts of Criminal Law (3)
Lec-3
Principles of California Criminal Law, including laws of arrest, search, and seizure, applicable sections of the Constitution of the United States and relevant cases as they apply to and affect contemporary law. Aspects of the Penal Code and other criminal statutes required for a comprehensive understanding. CSU/UC/CAN

ADMJ 53. Legal Aspects of Evidence (3)
Lec-3
Not open to students who are enrolled in or have completed LA 70
The kinds and degrees of evidence; rules governing the admissibility of evidence in court. GSU

ADMJ 54. Principles and Procedures of the Justice System (3)
Lec-3
Review of court systems; procedures from incident to final disposition; principles of constitutional, federal, state, and civil law as they apply to and affect law enforcement. CSU

ADMJ 57. Introduction to the Administration of Justice (3)
Lec-3
An analysis of the causes of crime; overview of modern crime and police problems; different types of criminals; organized crime; white-collar crime; philosophy and history of law enforcement; organization and jurisdiction of local, state, and federal law enforcement agencies; survey of professional career opportunities and qualifications required for employment. CSU/UC/CAN

ADMJ 59. Organized Crime and Gangs: A Social, Cultural and Legal Perspective (3)
Lec-3
Investigation of the etiology of organized crime and gangs. Exploration of the social and cultural characteristics of organized crime and gangs. Historical development and influence of organized crime and gangs and their relevance to the administration of justice in America. CSU

ADMJ 61. Traffic Supervision and Control (3)
Lec-3
Urban traffic problems and their possible solutions; traffic-law enforcement and fundamentals of accident investigation with emphasis on causes and the contributory aspects of driver behavior; regulation and control of traffic and the California Vehicle Code. CSU

ADMJ 62. Criminal Investigation (3)
Lec-3
Fundamentals of investigation: crime scene search and recording; collection and preservation of physical evidence; scientific aids, modus operandi; sources of information; interviews and interrogations; follow-up and case preparation. CSU
ADMJ 63. Criminal Identification (3)
Lec-3
The theory of and practices in the science of fingerprints, including classification, filing, comparisons, latent technology, preservation of evidence, court testimony, rolling prints, computer and the law as it pertains to criminal identification. Other aspects of personal identification and skeletal identification, portrait parle, composites, and basic camera procedures are also presented. CSU

ADMJ 64. Community Relations (3)
Lec-3
The interrelationships and role expectations among administration of justice agencies and the public. Emphasis on the agencies' professional image and the development of positive relationships with the public. CSU

ADMJ 65. Narcotic Investigations (3)
Lec-3
Theory and fundamentals of the problems of a narcotic investigation with a special emphasis on the San Francisco Bay Area. Study of the principles of drug investigations, including the recognition, identification, and effects of specific drugs; undercover investigations; the investigator in court; and other topics related to narcotic investigations. CSU

ADMJ 66. Physical Evidence (3)
Lec-3
The interrelationships of the law enforcement officer and the criminalist. Illustrations of physical evidence from actual cases of crime detection; the basic concepts, and procedures of criministics and the role of the criminalist from the standpoint of the investigating officer. Laboratory problems and projects of special interest. CSU

ADMJ 70A. Patrol Procedures (3)
Lec-3
Prereq.: ADMJ 52 and 57
Not required of Administration of Justice majors employed in law enforcement work Responsibilities of and techniques and methods used by police officers on patrol. CSU

ADMJ 70B-70C-70D. Police Department Field Work (3-3-3)
Lec-2, work-5
Classes need not be taken in sequence.
Not required of Administration of Justice majors employed in law enforcement work
Field application of principles taught in previous courses in Administration of Justice, Individual experience and training in an Administration of Justice agency, or service in the Campus Police Department. The student must satisfy the placement requirements of the agency in which he plans to serve. CSU

ADMJ 75. Introduction to Industrial and Retail Security (3)
Lec-3
A survey of current problems in industrial and retail security, with emphasis on crime prevention. CSU

ADMJ 76. Introduction to Private Security (3)
Lec-3
Theory and practice in the private security field. Study of the skills necessary for a security professional. Review of organizational and management issues, and relations with law enforcement. CSU

ADMJ 80. Introduction to Probation and Parole (3)
Lec-3
Designed to explore in a cooperative and participatory manner administrative organization and management in probation and parole systems; recruitment, training, assignment, and supervision of probation and parole officers, and case loads. Emphasis on relating general principles to existing systems, as well as on the nature of interagency organization and relationships. CSU

ADMJ 81. Correctional Administration and Operation (3)
Lec-3, field trips
The principles of organization, administration, and operation of a department of corrections and correctional institutions. Effective aspects of correctional organization and operation pertaining to control of the custodial force, the treatment staff, and the clerical and maintenance staff. Principles of human relations and leadership. CSU

ADMJ 82A-82B. Criminal Justice Work Experience (3-3)
Conf-1, work-10
Practice working in a local criminal justice agency under the supervision of employees currently working in the field. Development of professional attitudes; application of principles; exposure to methods and problems. Weekly seminars to evaluate and review progress. CSU

ADMJ 85. P.C. 832 - Police Reserve Training (3)
Lec-3
This course is mandated by the State of California Commission on Peace Officer Standards and Training for all persons appointed as Reserve Police Officers as well as various institutional, park ranger and other peace officer positions. Lecture, demonstration and testing material are mandated by the State of California. CSU

ADMJ 101. Basic Police Academy (16)
Lec-25, lab-15 (25 wks)
Prereq.: pass the State P.O.S.T. (Commission on Peace Officer Standards and Training) reading and writing exam or be hired by a P.O.S.T. Approved Agency; Department of Justice Clearance; Medical Verification; Obtain Clearance From a Licensed Physician to participate in intensive physical activity commensurate With a Police Academy. Principles, procedures, and techniques of law enforcement; criminal law, patrol procedures, investigative procedures, writing law enforcement reports, defensive and offensive tactics, use of weapons, community relations, police vehicle operations, traffic enforcement, investigation of accidents, first aid and CPR, and the academic and physical skill training and assessment required by the state to meet the minimum standards to be eligible for employment as a peace officer in California. CSU

ADMJ 51, 52, 53, 54, 57, 70A, 70B, 70C, and 70D will not be accepted in lieu of those subjects, taught in ADMJ 101.
CREDIT, DEGREE APPLICABLE COURSES:

F SC 50. Introduction to Fire Science (3)
Lec-3
CR/NC avail.
Philosophy and history of fire protection; history of loss of life and property through fire; review of municipal fire defenses; the organization and function of federal, state, county, and private fire-protection agencies; survey of career opportunities in professional fire fighting. CSU

F SC 51A. Fire Tactics and Strategy (3)
Lec-3
Fire suppression organization; fire suppression equipment; characteristics and behavior of fire; fire hazard properties of ordinary materials; building design and construction; extinguishing agents; basic fire fighting tactics; public relations. CSU

F SC 52A. Fire Protection Equipment and Systems (3)
Lec-3
A study of automatic sprinkler systems, standpipe systems, fire detection devices and systems, manual fire suppression equipment, water supplies, extinguishing agents, pumps used in fire protection, and special extinguishing systems. CSU

Lec-3
Components of building construction that relate to fire safety. Key factors of construction and design of structures when inspecting buildings, preplanning fire operations, and operating at fires. Development and evolution of building and fire codes in relationship to fires in residential, commercial, and industrial occupancies. CSU

F SC 55. Wildland Fire Control (3)
Lec-3
Wildland fire behavior, fireline safety, fire prevention, fire extinguishment methods, initial attack strategy and tactics, incident command system, fireground communications, use of engine companies, use of aircraft, use of hand crews and bulldozers, wildland/urban firefighting strategies and tactics, and firefighting situations. CSU

F SC 60. Fire Apparatus and Equipment (3) sp
Lec-3
History, construction and operation of pumping engines, aerial ladders, aerial platforms, specialized equipment, driving techniques, driving laws, apparatus maintenance; orientation and use of fire department equipment as it relates to firefighting. CSU

F SC 61A-61B. Fundamentals of Fire Prevention (3-3)
Lec-3 ea.
F SC 61A is not prerequisite to FSC 61B. A study of the history of fire prevention, fire behavior and effects, building design, fire prevention codes and standards, and the recognition of common and special hazards and their abatement. How to conduct a fire safety inspection and apply applicable codes and standards. CSU

F SC 62. Rescue Practices (3)
Lec-3
Addresses the components of rescue including vehicle extrication and rescue, confined space, trench, and excavation rescue scenarios and aquatic response emergencies. Provides a look at current technologies, an overview of heavy vehicle rescue, and an awareness of operational issues confronting basic level rescue providers. CSU

F SC 64. Fire Behavior and Combustion (3)
Lec-3
Theory and fundamentals of how and why fires start, spread, and are controlled; in-depth study of fire chemistry and physics, characteristics of materials, extinguishing agents, and fire control techniques. CSU

F SC 68A. Fire Prevention 1A (2)
Lec-2
CR/NC avail.
(First of a two-part series and a standard State Board of Fire Services accredited course; one of eight classes required for State Fire Officer 1 certification.)
A broad, technical overview of fire prevention codes and ordinances, inspection practices, and key hazards. Includes flammable and combustible liquids and gases, explosives, fire-works, and extinguishing systems. CSU

F SC 68B. Fire Prevention 1B (2)
Lec-2
CR/NC avail.
(Second of a two-part series and a standard State Board of Fire Services accredited course; one of eight classes required for State Fire Officer 1 certification.)
A broad, technical overview of fire prevention codes and ordinances, inspection practices, and key hazards. Includes flammable and combustible liquids and gases, explosives, fire-works, and extinguishing systems. CSU

F SC 70. Fire Investigation (3)
Lec-3
Study of the various components of fire investigation: causes of fire (accidental, suspicious and incendiary); types of fires, chemistry/physics of fire; related laws; introduction to arson and incendiarism, recognition and preservation of evidence; interviewing witnesses and suspects; court procedures and giving testimony; introduction to terrorist tactics. CSU

F SC 71A. Fire Instructor 1A (2)
Lec-2
CR/NC avail.
First of a two-course series. Topics include: occupational analysis, course outlines, concepts of learning, levels of instruction, behavioral objectives, using lesson planning and development, psychology of learning, and instructor evaluation. Student teaching demonstrations are required of all. CSU

F SC 71B. Fire Instructor 1B (2)
Lec-2
CR/NC avail.
Second in a two-course series. Topics include: preparing course outlines, establishing levels of instruction, constructing behavioral objectives and lesson plans, developing instructional aids, fundamentals of testing and measurements, test planning, evaluation techniques and tools. Student teaching demonstrations are required of all. CSU
F SC 72. Fire Investigation 1A (2)
Lec-2 CR/NC avail.
An introduction and basic overview of fire scene investigation. The focus of this course is to provide information on fire scene indicators and to introduce fire personnel to concepts of investigation. This course applies to FIRE OFFICER and FIRE INVESTIGATOR I certification from the California State Fire Marshall's office. CSU

F SC 73. Fire Investigation 1B: Techniques of Fire Investigation (2)
Lec-5 (5 wks) CR/NC avail.
Instruct public sector and private sector personnel on the correct techniques applicable to the investigation of a fire scene. Training will include topics including motives of fire setters, scene safety for investigators, properly documenting and handling evidence at the fire scene, interviewing and interrogation, processing the scene where a fatality or serious injury has occurred, properly using resource information and building plans. Course meets the requirements for California State Fire Training Investigation 1B and has been accredited by that agency. CSU

F SC 84. Fire Management 1 (2)
Lec-2 CR/NC avail.
(A standard State Board of Fire Services accredited course; one of eight classes required for State Fire Officer 1 certification.) Preparation or enhancement of the first line supervisor's ability to supervise subordinates. Introduction to key management concepts and practices utilized in the California Fire Service. Includes decision making, time management, leadership styles, personnel evaluations, and counseling guidelines. CSU

F SC 88A. Fire Command 1A (2)
Lec-2 CR/NC avail.
This is the first of a two course series and is a standard State Board of Fire Services accredited course. It is one of the eight classes required for State Fire Officer 1 certification. The course provides the student with an introduction to Fire Ground Command Operations including elements of Fire Behavior, Fire Ground Management and use of Fire Ground Resources. The course uses basic I.C.S. techniques and is designed to give the new Fire Officer an understanding of overall fire ground operations. CSU

F SC 88B. Fire Command 1B (2)
Lec-2 CR/NC avail.
Prereq.: F SC 88A
Second of a two-part series of courses on Company Operations and is a standard State Board of Fire Services accredited course. It is one of eight classes required for State Fire Officer 1 certification. The course provides the student with an overall concept for Company Operations involving Hazardous Materials incidents. The course uses basic I.C.S. techniques and is designed to give the new Fire Officer an overall introduction to safety and handling of Hazardous Materials incidents. CSU

F SC 105A-F. Fire Protection Work Experience (1-3)
Prereq.: F SC 50 CR/NC avail.
Repeat: max. 6 units
Application of knowledge gained in F SC 50, introduction to fire science, a survey course of the fire protection field. The student will work at a firehouse, or at the fire department headquarters, or at a specialty unit of the S.F.F.D. and be evaluated on their job performance by personnel assigned to that unit. The student will be able to identify at the conclusion of this experience whether the fire protection field is a career goal for them. No class in the sequence is prerequisite to another. CSU

F SC 105A-B. Fire Protection Work Experience (1)
Work-5
F SC 105C-D. Fire Protection Work Experience (2)
Work-10
F SC 105E-F. Fire Protection Work Experience (3)
Work-15

F SC 106. High Rise Fire Safety Director (1.5)
Lec-3 (9 wks) CR/NC Avail.
Prereq.: ESL 72 and High School Diploma or GED
Provides basic knowledge and skills in the preparation of facility emergency plans; fire prevention and protection; life safety systems; evacuation and relocation procedures; earthquake preparedness; management of various emergencies and coordinating with emergency responders. CSU
F SC 106 = JRNY 106

F SC 110. Basic Fire Academy (7)
Lec-4, lab-9 (16 wks)
Prereq.: pass the Civil Service Examination for H-2 Firefighter; pass the physical agility examination; pass The SFFD background history investigation; pass the medical verification examination given by the department physician. This intensive 16 week course includes principles, procedures and techniques of fighting fire. Students will learn technical and manipulative skills necessary in basic concepts of fire control, fire behavior and tactics and strategy. Students will learn laws and regulation affecting the fire service, use of fire service tools and equipment, apparatus, hose, ladders, breathing apparatus and ropes. Course meets state fire marshal requirements for Firefighter 1 certification. CSU

HLTH 17. Public Safety - First Responder (3)
Lec-3 CR/NC avail.
Instruct public safety personnel who may arrive first to medical emergencies. Training will provide public safety personnel with the knowledge and basic skills necessary to recognize when a citizen is experiencing a medical emergency, activate the Emergency Medical System, conduct a primary and secondary survey, and provide a formal report of the victim’s condition to arriving Advanced Life Support Personnel. CSU

African American Studies
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:
AFAM 10. Independent Studies in African American History (3)
Ind st-3 Repeat: max. 6 units
An individual reading or research program. CSU/UC
AFAM 30. African American Consciousness (3)
Lec-3, field trips
A historical overview of the development of Black psychology; the relationship between values and beliefs in developing a healthy Black identity in childhood, adolescence, adulthood, and old-age; an analysis of cultural, educational, economic, social, and political influences that impact on Black family life. CSU/UC

AFAM 40. The Black Experience in California, 1500 to the Present (3)
Lec-3, field trips
The role of Africans in the creation of California as a geopolitical and cultural entity; includes use of primary source materials and personal family histories. CSU/UC

AFAM 50. Black Cinema (3)
Lec-3, field trips
Early film history (1895-1950) from an African American, Africentric perspective. Films/videos shown will include work on and by African Americans. Genres shown will include narrative and experimental as well as documentary. CSU/UC

AFAM 51. Contemporary Black Cinema (3)
Lec-3
Contemporary film history (1950 to present) from an African American, Africentric perspective. Films/videos shown will include work by African American, African, and diaspora film/videomakers. Genres shown will include narrative and experimental as well as documentary. CSU/UC

AFAM 60. The African American Woman in the United States (3)
Lec-3
The Black woman in America from 1619 to the present. Particular emphasis on contributions she has made to the society. CSU/UC

AFAM 70. African American Health Issues (3)
Lec-3, field trips
Major health problems in the African American community with emphasis on health promotion and disease prevention. Examines the relationships between contemporary health practice and beliefs and those of ancient African people. Social and economic issues and the impact on the delivery of health care. CSU/UC

ART 107. African American Art History (3)
Lec-3, field trips
A brief survey of the art of West African civilizations and art history of African Americans from the colonial to contemporary time. 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

BCST 104. Minorities and Mass Media (3)
Lec-3, field trips
Adviser: ENGL 94
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 these images through general and ethnic media outlets. CSU/UC

ECON 30. Economics of the African American (3)
Lec-3
CR/NC avail.
An introduction to the principles of Black political economy. Black employment, employment discrimination, Black capitalism, the Black underclass, homelessness, and community economic development. Examination of the empirical link between race, class and income distribution. CSU/UC

ENGL 32A. Early African American Fiction (3)
Lec-3
CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Not open to students who are enrolled in or who have completed ENGL 34A.
A survey course designed to explore and analyze African American fiction from 1890 to 1940. CSU/UC

ENGL 32B. Contemporary African American Fiction (3)
Lec-3
CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Not open to students who are enrolled in or who have completed ENGL 34B.
An in-depth survey course designed to explore and critically analyze significant literary works of fiction by African American writers from 1940 to the present. CSU/UC

ENGL 34A. Early African American Fiction (3)
Lec-3
CR/NC avail.
Not open to students who are enrolled in or who have completed ENGL 32A.
A survey course designed to explore and analyze African American fiction from 1890 to 1940. CSU

ENGL 34B. Contemporary African American Fiction (3)
Lec-3
CR/NC avail.
Not open to students who are enrolled in or who have completed ENGL 32B.
An in-depth survey course designed to explore and critically analyze significant literary works of fiction by African American writers from 1940 to the present. CSU

ENGL 36. African American Literature—A Survey (3)
Lec-3
CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Reading and analysis of formal and informal literary expressions of African Americans, from slavery to the present. CSU/UC

ENGL 37. African American Women in Literature (3)
Lec-3, field trip
CR/NC avail.
An intensive examination of the literary efforts of African American women writers beginning with the Slave Narratives to the present. CSU/UC

GLST 50. Gay/Lesbian/Bisexual/Transgender Communities of Color in the U.S. (3)
Lec-3
CR/NC avail.
Examination of the formation of lesbian/gay/bisexual and transgender identities and communities among people of color in the United States. Included are African Americans, Native Americans, Asian Americans, Pacific Islanders, and Chicano/Latinos. CSU/UC
HIST 38. The Antebellum South in American History (3) 
Lec-3 CR/NC avail. 
The antebellum South; its history, system of race relations, social institutions, art, and unique culture. CSU/UC

HIST 41A-41B. The African American in the United States (3) P3 
Lec-3 CR/NC avail. 
The political, social, artistic, and cultural history of the African American in the United States. CSU/UC 
HIST 41A. From the African heritage to the Civil War. 
HIST 41B. From the Reconstruction to the present.

HIST 48. African History (3) 
Lec-3 CR/NC avail. 
A survey of African history from the beginning of man to the present. Its geography, race, development of major states, art, culture, population movements, European influence and nationalism. CSU/UC

HUM 48. African American Music, Art and Literature (3) 
Lec-3 CR/NC avail. 
A study of significant works in African American literature, philosophy, art and music through an examination of examples and a comparison with other cultural expressions in the United States. Readings, recordings, slides, films and field trips (to museums, exhibits, concerts, plays, etc.) as background for guided discussions, study, and writing. CSU/UC

IDST 23. African American Women in the Creative Arts (3) 
Lec-3 CR/NC avail. 
An intensive examination of the creative efforts of African American women visual artists, entertainers, performers, and writers from 1753 to the present. CSU/UC

IDST 36. Poetry for the People (3) 
Lec-3 CR/NC avail. 
An interdisciplinary poetry course which explores the poetry of African Americans, Latino(a)s, Asian Americans, and Native Americans, including poetry by incarcerated people and by poets of all sexual orientations. Use of tapes, recordings, films, poetry readings, and discussions, close readings, guest lectures and performances to (1) identify poetry that is accessible to the general community and (2) develop strategies and various media for making poetry available to diverse communities. CSU/UC

IDST 37. Ethnic Minorities in the United States (3) 
Lec-3 CR/NC avail. 
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

IDST 44. African Literature (3) 
Lec-3 CR/NC avail. 
An extensive examination of the composite of Africa's literary art from literature in the oral tradition and in the vernacular languages to modern literature written in vehicular languages, languages of the colonizers. Analysis of successive attitudes of the Western world toward the Black race as related by African writers from 1890 to 1960, the most important historical period in African literature south of the Sahara. CSU/UC

IDST 70. Architecture and Diversity (3) 
Lec-3, field trips CR/NC avail. 
An introductory critical review of the building and design heritage of women all over the world and of indigenous people's architecture in Africa and Latin America from tribal dwellings to monumental structures, followed by a series of architectural and engineering studios introducing students to basic building and design skills: developing a project, drawing a floor plan, building an architectural model, using drafting tools and computers. Emphasis on hands-on skills. CSU

MUS 8A-8B. Jazz and Other Popular Piano Styles (1) 
Lec-3, field trips CR/NC avail. 
Advised MUS 9A (or demonstrate the exit skills of MUS 9A) 
A study of basic jazz, rock, gospel, blues, and folk piano techniques. CSU/UC

MUS 21. Traditional African Music (3) 
Lec-3, field trips CR/NC avail. 
A survey of the function of traditional music in Africa and how it is organized as an integral part of everyday activity. Emphasis on practical application. CSU/UC

MUS 23. Jazz History: Musical Traditions of the African American (3) 
Lec-3, lab-1, field trips CR/NC avail. 
Lectures, discussions, assigned reading and listening designed to explore the musical heritage of the African American, including spirituals, work songs, blues, jazz, gospel, opera, and symphony. Interaction of these with traditional American and European music. CSU/UC

MUS 26. Music in American Culture (3) 
Lec-3, lab-1, field trips CR/NC avail. 
A survey of music generated by America's diverse populations including Latino, African American, Hawaiian, Native American, Cajun, and Puerto Rican. CSU/UC

MUS 41. African Drumming Ensemble (1) 
Lab-3, field trips CR/NC avail. 
Repeat: max. 4 units 
The content of this course varies. Students may re-enroll without repeating subject matter. African drumming studies and performance of music integral to everyday life in Africa. A review of the function of traditional music in Africa. CSU/UC

P E 500A-500B-500C. African-Haitian Dance (1-1-1) 
Conf-1, lab-1 CR/NC avail. 
Repeat: max. 4 units 
Beginning, intermediate, and advanced study of African-Haitian dance as a vehicle to understand and appreciate the impact and manifestation of the African culture in the Caribbean and North America. CSU/UC
P E 523A-523B-523C. Jazz Dance (1-1-1)  
Lab-2  
Repeat: max. 4 units  
Beginning, intermediate, and advanced jazz dance techniques, patterns, routines, choreography, and improvisation. CSU/UC

POL S 7. American Politics and the African American Community (3)  
Lec-3  
CR/NC avail.  
Advisors: POLS 1 or 46 American political institutions and their relationship to African Americans. The unique manner in which Black people have had to function both within and outside of the political system. The future of African American politics. CSU/UC

POL S 48. Government and Politics of Africa (3)  
Lec-3  
CR/NC avail.  
A survey of political development and change in contemporary Africa, with emphasis on Africa south of the Sahara. Major factors shaping African politics and institutions; ideology, nationalism, colonialism, political groups, and nation-building. CSU/UC

PSYC 22. Psychology of Race and Ethnic Relations (3)  
Lec-3  
CR/NC avail.  
Not open to students who are enrolled in or who have completed PSYC 23.  
Critical evaluation of the concept of race as a biological, social and cultural construct and examination of psychological aspects of race and ethnic relations. Psychohistorical analysis of the treatment of African Americans, Asian Americans, Mexican/Latino Americans, and Native Americans in the USA. Emphasis on the strengths and unique contributions of these and other groups to the USA. CSU

PSYC 23. Psychology of Race and Ethnic Relations (3)  
Lec-3  
CR/NC avail.  
Prereq.: PSYC 1  
Not open to students who are enrolled in or who have completed PSYC 22.  
Critical evaluation of the concept of race as a biological, social and cultural construct and examination of psychological aspects of race and ethnic relations. Psychohistorical analysis of the treatment of African Americans, Asian Americans, Mexican/Latino Americans, and Native Americans in the USA. Emphasis on the strengths and unique contributions of these and other groups to the USA. CSU/UC

TH A 17. Multicultural Theatre (3)  
Lec-3  
CR/NC avail.  
Evaluation and demonstration of the importance of the origins of the Asian, African, and Latin theatre in the development of the Asian American, African American, and Latin American cultures that form part of the American society of today. CSU/UC

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**Aircraft-Maintenance Technology and Aeronautics**

**Announcement of Curricula**

**Aircraft-Maintenance Technology**

**Degree Curriculum**

(Options in Aircraft Power-Plant Maintenance Technology)

Airframe-Maintenance Technology, and Avionics-Maintenance Technology

City College of San Francisco offers two years of specialized training for students desiring preparation for employment as aircraft technicians maintaining powerplants, airframes, or avionics equipment.

**Employment.** This training qualifies students who complete the course of study satisfactorily for employment in various positions, including those indicated in any of the following fields:

- Powerplant Maintenance—Entry positions as accessory mechanic, general powerplant mechanic, maintenance-crew member, ramp service-crew member, and hangar-crew member. Positions to which graduates may advance after obtaining experience and further training include those of aircraft powerplant technician (licensed), supervisor, and inspector.

- Airframe Maintenance—Entry positions as general aircraft-overhaul mechanic, accessory mechanic, electric-plant mechanic, general cabin-equipment mechanic, maintenance-crew member, ramp-service crew member, and hangar-crew member. Positions to which graduates may advance after obtaining experience and further training include those of airframe technician (licensed), supervisor, and inspector.

- Avionics Maintenance—Entry positions avionics technician, radio/electric line mechanic. Positions to which graduates may advance after obtaining experience and further training include those of lead systems specialist, supervisor and inspector.

**Required Permission to Enroll.** Because the number of applicants for admission to the curricula greatly exceeds the staff and facilities the College can provide, enrollment is necessarily limited. Permission to enroll in the curriculum must be obtained from the Aeronautics Department. Telephone (415) 239-3901 for counseling appointments and applications. To be considered for admission to the curriculum, student must:

1. File with the Office of Admissions and Records an application for admission to City College.

2. Submit an application to the Aeronautics Department for admission to the curricula in aircraft-maintenance technology. Applications are available from the Aeronautics Department, San Francisco International Airport, or from the student's assigned counselor on campus.

3. Take the City College of San Francisco placement tests on the dates announced by the College.
Communication and Computation Skills: Federal Aviation Administration (F.A.A.) regulations require that a student must be able to read, speak, and understand English and perform basic computation. Therefore, it is highly recommended that (1) Applicants prior to enrolling in the Aeronautics program complete ESL 82 with a final grade of "C" or higher or receive a CCSF placement of ENGL 94 or 2) students enrolled in English classes complete ENGL 92 with a "C" or higher or receive a CCSF placement of ENGL 94 and 3) students complete MATH E, BSMA G, H, or J or receive a placement of MATH 840.

Physical Competence. Federal Aviation Administration regulations require that students must be in good health, have good eyesight and hearing. Handicapped students will receive full consideration when the handicap is not an insurmountable barrier to job performance.

Special Regulations and Policies. The Aircraft Maintenance Technology Program is regulated by the Federal Aviation Administration. As a result, all students will be issued a "Department of Aeronautics Student Handbook." Contained in the handbook are special regulations regarding attendance, performance levels, conditions of academic probation and dismissal from the program. Also included are notices concerning personal safety equipment, hand tools and supplies which the student will be responsible to purchase. Approximately $150 will cover the required items.

Previous Aircraft Job-Related or Educational Experience. Applicants with previous aircraft job-related experience and training must have the experience and training documented according to Federal Aviation Administration regulations. This experience will not guarantee admission to the program, nor may it waive any requirements in the Department, but will usually provide the student with a greater chance of success in both training and placement in the industry. If the training and experience are accompanied with official verification, in limited cases and upon Aeronautics Department approval, they may substitute for certain course requirements.

Counseling. Since students in this curriculum may prepare for employment in a variety of positions on different levels, the Department of Aeronautics counselor consults individually with students to help each select the training best suited to his/her abilities and interests.

Training in the Major. Within their first three semesters, students in this curriculum obtain broad background in aircraft maintenance by taking the following technical courses common to all options in the curriculum: Introduction to Aircraft Maintenance, and Basic Electricity and Electrical Systems. In their second, third, and fourth semesters, students enrolled in the various options take specialized technical courses.

Airport Training. Instruction in the technical courses in the curriculum is given in the College Airport Campus, located at the San Francisco International Airport.

Associate in Science Degree and Award of Achievement. The course of study is designed so that students may satisfy the requirements for graduation from the College.

Students who satisfy these requirements and complete any of the options in the curriculum with the final grade of C or higher in their major technical courses receive the Award of Achievement and a certificate from the Federal Aviation Administration. This certificate permits students to take the written, oral, and performance tests for a technician's rating from the Federal government. Passing these tests qualifies students to seek employment in their field.

National Approval. The Federal Aviation Administration has approved the Option in Aircraft Powerplant Maintenance Technology in this curriculum and therefore permits those who hold the Award of Achievement (or the Certificate of Completion) to take the examination for the F.A.A. Powerplant Certificate. The Federal Aviation Administration has approved the Option in Airframe-Maintenance Technology in this curriculum and therefore permits those who hold the Award of Achievement (or Certificate of Completion) to take the examination for the F.A.A. Airframe Certificate.

Those who satisfactorily complete the Option in Avionics-Maintenance Technology in this curriculum and who hold the Certificate of Completion are qualified to take the Federal Communications Commission (F.C.C.) examination and meet job entry requirements of the avionics-maintenance field.

Transfer to San Francisco State or San Jose State University. Although students in the Aircraft-Maintenance Program generally enter industry upon graduation, for those students who may prefer to earn the Bachelor's degree, San Francisco State and San Jose State University offer graduates this opportunity. Those students who intend to transfer should consult the counselor in the Aircraft-Maintenance Technology Department at City College of San Francisco. Courses Required for the Award of Achievement in Aircraft-Maintenance Technology:

Options in Aircraft Powerplant and Airframe-Maintenance Technology
First Semester
Course Course Units
AIRC 101 Intro to Aircraft Maint ................ 8
AIRC 102 Basic Elect Sys ................ 8
Additional graduation requirements

Second Semester
Course Course Course
AIRC 103 Powerplant Theory & Maint .............. 8
AIRC 104 Propul Powerplant Sys ................ 8
Additional graduation requirements

Option in Aircraft Powerplant Maintenance Technology
Third Semester
Course Course Course
AIRC 105 Powerplant Comp ................ 8
AIRC 106 Aircraft Metal Struct ................ 8
AIRC 116 Aircraft Mat Proc ................ 1
Additional graduation requirements

Fourth Semester
Course Course Course
AIRC 107 Hydr, Pneum & Cabin ................ 8
AIRC 108 Rigging & Electr Sys ................ 8
AIRC 115 Aircraft Mat Proc ................ 1
Option in Airframe-Maintenance Technology

Third Semester
AIRC 106 Aircraft Metal Struct. .................. 8
Additional graduation requirements

Fourth Semester
AIRC 107 Hydr, Pneum & Cabin .................. 8
AIRC 108 Rigging & Elect Sys .................. 8
AIRC 115 Aircraft Mat Proc .................. 1

Option in Avionics-Maintenance Technology
ET 60 Electronics I - DC/AC Circuit Analysis ...... 4
ET 63 Intro to Digital Circuits and Techniques ...... 3
ET 65 Electronics II - Linear Active Circuits ...... 4
AIRC 113 Avionics Comm & Navig .................. 7
Additional graduation requirements

Certificate Program

Admission. Enrollment in any of the following certificate curricula is open to those students who have been admitted to Aeronautics Department.

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

Certificate Curriculum in Aircraft Powerplant Maintenance Technology

Employment. The program of study in the Certificate Curriculum in Aircraft Powerplant Maintenance Technology is designed so that students may gain the skills and knowledge required for employment in various capacities in powerplant maintenance for aircraft. Entry positions for which students who obtain the Certificate of Completion in this curriculum are qualified include those of accessory mechanic, general powerplant mechanic, maintenance-crew member, ramp service-crew member, and hangar crew member. Positions to which students may advance after gaining experience and undertaking further study include those of powerplant technician (licensed), supervisor, and inspector.

Requirements for the Certificate of Completion. Students may obtain the Certificate of Completion in Aircraft Powerplant Maintenance Technology by passing a departmental final examination with a grade of B or higher and by receiving a final grade of C or higher in all of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
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<td>8</td>
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<tr>
<td>AIRC 116 Aircraft Mat Proc</td>
<td>1</td>
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</tbody>
</table>

Permission to Take F.A.A. Examination. The Federal Aviation Administration has approved the Certificate Curriculum in Aircraft Powerplant Maintenance Technology, since training is planned so that students may achieve a level of proficiency acceptable under the standards of the aviation industry. The Federal Aviation Administration therefore permits those who hold the Certificate of Completion in Powerplant Maintenance Technology to take the examination for the F.A.A. Powerplant Certificate.

Certificate Curriculum in Airframe-Maintenance Technology

Employment. The program of study in the Certificate Curriculum in Airframe-Maintenance Technology is designed so that students may gain the skills and knowledge required for employment in various capacities in airframe maintenance. Entry positions for which students who obtain the Certificate of Completion in Airframe-Maintenance Technology are qualified include those of general aircraft-overhaul mechanic, accessory mechanic, electric-shop mechanic, general cabin-equipment mechanic, maintenance-crew member, ramp service-crew member, and hangar-crew member. Positions to which these students may advance after gaining experience and undertaking further study include those of airframe technician (licensed), supervisor, and inspector.

Requirements for the Certificate of Completion. Students may obtain the Certificate of Completion in Airframe-Maintenance Technology by passing a departmental final examination with a grade of B or higher and by receiving a final grade of C or higher in all of the following courses:

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<td>AIRC 106 Aircraft Metal Struct.</td>
<td>8</td>
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<tr>
<td>AIRC 107 Hydr. Pneum &amp; Cabin Sys</td>
<td>8</td>
</tr>
<tr>
<td>AIRC 108 Rigging &amp; Elect Sys</td>
<td>8</td>
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<tr>
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Permission to Take F.A.A. Examination. The Federal Aviation Administration has approved the Certificate Curriculum in Airframe-Maintenance Technology, since training is planned so that students may achieve a level of proficiency acceptable under the standards of the aviation industry. The Federal Aviation Administration therefore permits those who hold the Certificate of Completion in Powerplant Maintenance Technology to take the examination for the F.A.A. Airframe Certificate. Certificate Curriculum in Avionics-Maintenance Technology

Employment. The program of study in the Certificate Curriculum in Avionics-Maintenance Technology is designed so that students may gain the skills and knowledge required for employment in various capacities in avionic maintenance for aircraft. Entry positions for which students who obtain the Certificate of Completion in this curriculum are qualified include those of radio/electric line mechanic, accessory mechanic, maintenance-crew member, ramp service-crew member, and hangar-crew member. Positions to which these students may advance after gaining experience and undertaking further study include those of airframe technician (licensed), supervisor, and inspector.
The Avionics Certificate Curriculum consists of course work in both Engineering Technology and Aircraft Maintenance Technology. This allows students to further their study in both engineering and avionics.

Requirements for the Certificate of Completion. Students may obtain the Certificate of Completion in Avionics-Maintenance Technology by completing the following requirements with a final grade of C or higher in each course:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>ET 60 Electronics I - DC/AC Circuit Analysis</td>
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</tr>
<tr>
<td>ET 65 Electronics II - Linear Active Circuits</td>
<td>4</td>
</tr>
<tr>
<td>AIRC 113 Avionics Comm Navig.</td>
<td>7</td>
</tr>
</tbody>
</table>

AIRC 105. Powerplant Components and Propellers (8)
Lec-5, lab-10
Advis - AIRC 101, 102, 103, and 104 or equivalent varied experience and departmental approval.
Theoretical and practical approach to fuel system control and the maintenance of each system component. The theory applied to propulsion and the practical application of propeller maintenance to Federal Aviation Administration standards. CSU

AIRC 106. Aircraft Metal Structures (8)
Lec-5, lab-10, field trips
Prereq.: Admission to Aero. Dept.
The technological approach towards the complex airframe structures and the stresses absorbed by the skin coverings. Emphasis on construction and maintenance of these metal structures. Applied methods of airworthy repairs, including the forming processes, the bonding surfaces, plastic and honeycomb repairs, the fusing of metals and its limitations, fire detection, and ice-detection systems. Emphasis on the proper use of tools and equipment needed for approved repairs to metal structures. CSU

Lec-5, lab-10
Advis - AIRC 101, 102 or equivalent varied experience and departmental approval.
This course acquaints students to the theoretical and practical experiences needed in aircraft hydraulic, pneumatic, landing gear, fire, ice and rain control systems. CSU

AIRC 108. Rigging and Electrical Systems (8)
Lec-5, lab-10, field trips
Prereq.: Admission to Aero. Dept.
F.A.A. requirements applied to techniques of rigging aircraft, controls, and control surfaces. A short introduction to the wood structures and fabric covering along with the maintenance techniques. Applied theory of finishes and their effects on flight conditions. Maintenance techniques in electrical wiring, control switches, indicators, and protective devices. Trouble shooting and repairing of alternating-current electrical systems. CSU

AIRC 109. Materials Laboratory (4)
Lec-4, lab-2, field trips
Prereq.: Aircraft Maintenance Major
Var content - max: 12 units
109A Advance Sheet Metal. CSU
109B Introduction to Transport Aircraft. CSU
109C Transport Aircraft System Airframe. CSU
109D Transport Aircraft System Powerplant. CSU
109E Advance Composite. CSU
109F Rotary Wing Aircraft. CSU
109G Introduction to Avionics for A&P. CSU
109H Intermediate Avionics for A&P. CSU
109J Basic AeroDynamics and Flight Procedures for Maintenance Technicians. CSU
109K Advance Non Destructive Inspection. CSU
109L Advance Material and Processing for Aircraft Mechanics. CSU
AIRC 110A. Introduction to Aviation (2)
Lec-3, field trips
Introduction to the field of aviation, aerospace, and the realm of flight. Aviation industry: social and economic effects, careers available. Basic aircraft systems; elementary principles of flight; the atmosphere, space, and basic physiological factors. CSU

AIRC 110B. Flight Science (3)
Lec-3, field trips
(Designed to achieve the equivalent of the F.A.A. Private Pilot Ground School, this class will enable the student to take the F.A.A. private pilot written examination. Flight instruction is not intended as part of this course. Such training may be obtained at F.A.A. approved flight schools at nearby airports.) Aviation weather flight computers, navigation, radio navigation, air-traffic control, Federal Aviation Regulations, weight and balance, use of the Airman’s Information Manual and cross-country flight planning. CSU

AIRC 113. Avionics Communication and Navigation Systems (7) sp
Lec-5, lab-6, field trips
Prereq.: F.F.A. Airframe Cert.
A study of large aircraft communications and navigation systems: air-to-ground and closed circuit communications; navigation systems providing guidance information and data for automated steering. Analysis of systems operation, fundamental troubleshooting and maintenance techniques as applied to large jet aircraft. CSU

AIRC 115. Aircraft Material Process (1)
Lec-2, field trips
Prereq.: AIRC 101, 102, 106, and 107
Coreq.: AIRC 108
The latest developments in advanced aircraft-airframe maintenance techniques, maintenance procedures, and testing. CSU

AIRC 116. Aircraft Material Process (1)
Lec-2, field trips
Prereq.: AIRC 101, 102, 103, and 104
Coreq.: AIRC 105
The latest developments in advanced aircraft-powerplant maintenance techniques, maintenance procedures, and testing. CSU

AIRC 120A-120B. Aircraft Maintenance Work Experience (4)
Conf-1, work-15
Prereq.: Enrolled in AIRC Curric.
Coreq.: Min. 3 units in addition to this course Supervised off-campus paid employment in the student’s major field, either aircraft-maintenance or aeronautics. CSU

LABR 96D. Labor Relations in Aircraft Maintenance (3)
Lec-3, field trips
A study of labor relations in the aircraft maintenance industry, 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 aircraft maintenance industry labor relations as they affect the economy, society and culture. CSU

American Sign Language
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

AMSL 1A-1B. Elementary American Sign Language (3-3)
Lec-3
Prereq.: AMSL 1B; AMSL 1A
Everyday communication emphasizing vocabulary and syntax; finger spelling to enable students to communicate with the deaf in a culturally appropriate manner on an elementary conversational level. CSU/UC

American Studies
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

AMC 11A-11B. American Civilization (3-3)
Lec-3
(AMC 11A not prerequisite to 11B)
Lectures and discussions exploring the principal historical, literary, artistic, and social movements in America; illustrated with slides, recordings, and films. CSU/UC

Anthropology
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

(For the purposes of satisfying graduation requirements at College of Letters and Science of the University of California, Berkeley, and San Francisco State University, ANTH 1, offered by the Biology Department, is regarded as either a natural science or a behavioral science course, but not both. All other anthropology courses are behavioral science courses.)

ANTH 1. Biological Anthropology (3)
Lec-3
CR/NC 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. Archaeology and Prehistory (3)
Lec-3
CR/NC avail.
Survey of the contemporary archaeological methods of excavation, analysis and interpretation; focus on the various theoretical approaches used to explain past human behavior; thematic discussion of the major events in the history of humankind from our earliest origins to the appearance of agriculture and civilization. CSU/UC/CAN
ANTH 3. Introduction to Social and Cultural Anthropology (3)
Lec-3  CR/NC avail.
Not open to students who have completed ANTH 3AC.
The structure and dynamics of cultures as seen in their religions, marriage practices, gender roles, kinship, social classes, languages, laws and political organization. Examples taken from tribal, peasant, and urban situations in many areas of the world. CSU/UC/CAN

ANTH 3AC. Introduction to Cultural Anthropology: Focus on American Cultures (3)
Lec-3  CR/NC avail.
Not open to students who have completed ANTH 3.
Introduces basic concepts of cultural anthropology through the study of cultures from at least three of the five following groups: African American, Asian/Pacific Islander, Chicano/Latino, Native American, and European American (as per the requirements of the UC American Cultures Program). Ethnography, history, literature, films and music are integrated in an interdisciplinary approach to cultural studies. CSU/UC
Formerly ANTH 3X

ANTH 4. Introduction to Linguistic Anthropology (3)
Lec-3  CR/NC avail.
The Study of Language: its general nature, its cognitive, biological, and social bases. Languages as they reflect the separate cultural realities of different societies. CSU/UC

ANTH 5. Archaeology of Ancient Civilizations (3)
Lec-3  CR/NC avail.
An archaeological examination of the origin, cultural evolution, and collapse of the world's ancient civilizations. This survey will focus on the civilizations of Mesopotamia, Egypt, Africa, Indus and Ganges Tiger River Valleys, China, Japan, Southeast Asia, Greece, Rome, Mesoamerica, and the Andes. CSU/UC

ANTH 8. Visions of the Sacred (3)
Lec-3  CR/NC avail.
A cross-cultural exploration of supernatural belief systems focusing on non-literate, tribal, and ethnic cultures; the history and methods of the anthropology of religion; the dynamics of myth, magic, totem, taboo, cults, and sects. CSU/UC

ANTH 11. Latin American Cultures and Societies (3)
Lec-3  CR/NC avail.
Comprehensive and critical analysis of the cultures and traditions of the peoples of Latin America. Critical in-depth study of contemporary society and political systems, inter-ethnic relations, traditional medical and healing methodologies, religion and sorcery. Analysis of the development of Latin American cultures and the impact of civilization on its peoples. Emphasis on the way of life in Latin American cities, barrios, and villages. CSU/UC

ANTH 12. North American Indian Cultures (3)
Lec-3  CR/NC avail.
The native people of North America are described in terms of pre-contact adaptation to the natural environment. Spiritual knowledge, family life, native medicine and native languages are studied in the context of traditional and contemporary cultures. Issues of political power, sovereignty and identity are explored using Native guest speakers and Native literature. CSU/UC (For ethnology of the North American Indian also see HIST 15A-15B.)

ANTH 15. Philippine Culture and Society (3)
Lec-3  CR/NC avail.
The development of Philippine culture and the impact of Western civilization on the people; emphasis on the ways of life in Philippine cities and barrios. Tribal cultures. CSU/UC

ANTH 19. Ethnology of China (3)
Lec-3  CR/NC 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

ANTH 20. Anthropology of Homosexualities (3)
Lec-3  CR/NC avail.
The roles and statuses of homosexuals in various cultures throughout the world, drawing heavily on examples from non-Western people, like those in Native American, Middle Eastern, African and Asian societies. Various aspects of culture which affect homosexuals' status, such as economic participation, religion, social relationships, and attitudes toward sexuality, will be examined in detail. CSU/UC

ANTH 25. Culture, Gender and Sexuality (3)
Lec-3  CR/NC avail.
An examination of the cross-cultural and historical factors that determine how women and men understand and act out their gender and sexuality. Focus on women's role in non-Western cultures such as Native American, Moslem, African and Asian societies. Various aspects of culture which affect both female and male status, such as economics, religion, family and marriage, and sexual practices, will be examined in detail. CSU/UC

ANTH 41-42-43. Current Issues and Innovations in Anthropology (1-2-3)
Lec-1,2,3  CR/NC avail.
Exploration of topics of current interest and innovations in anthropology. CSU/UC

Apprenticeship Announcement of Courses

The City College of San Francisco in cooperation with the California Division of Apprenticeship Standards and local joint apprenticeship committees offers "related training" apprenticeship programs in designated trades or occupations. Apprenticeship Work Experience is not offered by the College. Persons interested in seeking apprentice status and enrollment in apprenticeship "related Training" classes listed in this catalog
should contact the California Department of Industrial Relations, Division of Apprenticeship Standards or the local sponsoring joint apprenticeship committee.

CREDIT, DEGREE APPLICABLE COURSES:

**APPR 9715. Refrigeration/Air Conditioning Apprentice (1296 hrs)**
Preparation for entry-level employment in refrigeration and air conditioning. The performance skills are designated in the program standards established by the joint apprenticeship committee and approved by the Division of Apprenticeship Standards, Department of Industrial Relations, State of California.

**APPR 9716. Roofing/Waterproofing Apprentice (504 hrs)**
Apprentices will apply a variety of materials including hot and cold applied built-up roofing and waterproofing, asphalt shingles, roofing such as tile and single ply roofing materials including EPDM, PVC, Hypalon and Modified Bitumen.

**APPR 9720. Stationary Engineering Apprentice**
Training required for employment as a journeyperson in the stationary engineer trade. Includes safety, trade practices, gas and arc welding, first aid, CPR, fundamentals of conditioning air, heat transfer, air conditioning systems, plans, hydraulics, pneumatics, buildings, machines, electrical and sheet metal, boilers, mathematics grade, calculations, hand tools, power tools and equipment.

**APPR 9721. Steamfitting Apprentice (1296 hrs)**
Preparation for entry-level employment as a journeyperson in steamfitting. Performance skills are designated in the program standards established by the joint apprenticeship committee and approved by the Division of Apprenticeship Standards, Department of Industrial Relations, State of California.

**APPR 9723. Pastry Cooks Apprenticeship**
Instruction in the preparation of pastries, needed equipment, use of equipment, tools of the trade, sanitation, merchandising the product, management principles, supervision of the pastry facility, and historical background pertinent to the trade.

**APPR 9724. Cooks Apprentice (72 hrs)**
The practice and study of skills and knowledge required for entry level employment as a chef in the food preparation industry. Food purchasing, sanitation, safety, breakfast cooking, "a la carte" cooking, pantry, garde, meat cutting, oven work, soups, stocks, sauces, pastries, desserts, recipes, menus and other.

**APPR 9734. Marble Setter (54 hrs)**
Preparation to advance to the journeyperson level of skills, knowledge, and practices of a marble setter.

**APPR 9736. Marble Finisher (54 hrs)**
Advancement to the journeyperson level of skills, knowledge and practices of a marble finisher.

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**NONCREDIT COURSES:**

**APPR 9703. Bricklaying Apprentice (105 hrs)**
The study and practice of skills and knowledge required for entry level employment as a journeyperson in the bricklaying trade. Instruction includes occupational safety, health hazards, first aid, CPR, blueprint reading, use of basic drawings, hand tools, power tools and equipment, materials, supplies, calculations, simple equations, mixing ratios, wall construction, piers, fireplaces, arches, parging and stonework using brick, blocks and other materials.

**APPR 9710. Meat Apprentice (144 hrs)**
Study of and practice in the trade of platering as required by the apprenticeship program established by the local joint apprenticeship program established by the local joint apprenticeship committee and approved by the Division of Apprenticeship Standards Department of Industrial Relations, State of California. Related instruction includes safety, mathematics, hand tools, equipment, and materials. Seventy- two (72) hours per semester, 144 hours of related and supplemental instruction for this four (4) year apprenticeship.

**APPR 9713. Plastering Apprentice (72 hrs)**
The practice in the trade of plastering as required by the apprenticeship program established by the local joint apprenticeship committee and approved by the Division of Apprenticeship Standards Department of Industrial Relations, State of California. Related instruction includes: safety, mathematics, hand tools, equipment, materials, mixing, applying plaster, blueprint reading, bases, fireproofing, problems and repairs, exterior insulation finish systems (EIFS) and finishes.

**APPR 9714. Plumbing Apprentice (108 hrs)**
The practice and study of skills and knowledge required for entry level employment as a journeyperson in the plumbing industry. Instruction includes occupational hazards, safety, first aid, CPR, blueprint reading, use of basic drawings, common cutting and welding practices, gas and arc welding, soldering, brazing, residential plumbing repairs and installations, troubleshooting residential plumbing problems and recommended industrial practices.

**Journeyperson**

**JRUNY 106. High Rise Fire Safety Director (1.5)**
Lec-3 (9 wks)    CR/NC avail.
Prereq.: ESL 72 and High School Diploma or GED
Provides basic knowledge and skills in the preparation of facility emergency plans; fire prevention and protection; life safety systems; evacuation and relocation procedures; earthquake preparedness; management of various emergencies and coordinating with emergency responders. CSU

JRUNY 106 ≈ F SC 106
JRN 9701. Air Conditioning - Refrigeration I (54 hrs)
Introduction to the craft of air conditioning and refrigeration maintenance as practiced by journeypersons in the trade. Hands-on use of electrical instruments, hand, heat, and power tools.

JRN 9702. Air Conditioning - Refrigeration II (54 hrs)
Prereq.: JRN 9701
Continuation of the craft of refrigeration and air conditioning maintenance as practiced by journeypersons in the trade. Hands-on use of electrical instruments, hand, heat, and power tools.

JRN 9704. Backflow Prevention and Cross-Connection Control (54 hrs)
Introduction to the theory, fundamentals of operation, test equipment used and techniques recommended for testing and maintenance of backflow prevention assemblies.

JRN 9705. Boiler Operation and Maintenance (54 hrs)
An intensive course designed to introduce the basic properties of physics relative to the operation of steam and hot water boilers. Basic theory review and discussion of maintenance troubleshooting skills. Scheduled to various central plants.

JRN 9707. Computers I (Sta Eng) (54 hrs)
Introduction to the use of the PC and applications intended for the Stationary Engineer. Covers the Windows 95 operating system and introduces Microsoft Office 97.

JRN 9708. Computers II (Sta Eng) (54 hrs)
Prereq.: JRN 9707

JRN 9710. Controls I (Sta Eng) (54 hrs)
Designed to develop an understanding and recognition of various types of commercial and industrial control systems while achieving the skills needed to analyze wiring and ladder diagrams and concepts. This course will assist the development of the Engineer’s skills necessary to effectively troubleshoot electrical and pneumatic problems commonly found in facilities.

JRN 9711. Controls II (Sta Eng) (54 hrs)
Prereq.: JRN 9710
Continuation of JRN 9710. This course will broaden the Engineer’s capability to understand and recognize various types of commercial and industrial control systems as they continue to apply the skills needed to analyze wiring and ladder diagrams and concepts. Development of the Engineer’s skills necessary to effectively troubleshoot electrical and pneumatic problems commonly found in facilities.

JRN 9712. Direct Digital Controls (Sta Eng) (54 hrs)
This course will provide stationary engineers with an introduction to the new field of digital electronics for controlling the functions of a building’s HVAC systems, electronic access and fire alarm systems. Hands-on diagnostics of systems.

JRN 9713. Electricity I (Sta Eng) (54 hrs)
Designed to develop an understanding and recognition of various types of electrical circuits, diagrams and concepts while developing a broad scope of the skills needed for troubleshooting electrical problems. Electricity will be studied with an emphasis on control theory and application.

JRN 9714. Electricity II (Sta Eng) (54 hrs)
Prereq.: JRN 9713
Continuation of developing an understanding and recognition of various types of electrical circuits, diagrams and concepts while developing a broad scope of the skills needed for troubleshooting electrical problems. Electricity will be studied with an emphasis on control theory and application.

JRN 9715. Hazardous Materials (56 hrs)
In-depth instruction in a variety of “Hazmat” related topics, including: industrial hygiene, toxicology, use of respirators, radiation, emergency entry/egress procedures, and decontamination to name a few. A combination of classroom instruction and simulated “hands-on” exercises to familiarize Engineers with all aspects of proper handling of hazardous materials.

JRN 9720. Indoor Air Quality (75 hrs)
Designed to assist the journey-level or advanced apprentice stationary engineer to prevent and mitigate (relieve or alleviate) indoor air quality problems. Today's facilities are operated using complex mechanical systems that interact to produce a comfortable and productive work environment. Through the operation and maintenance of these systems an related training, stationary engineers acquire a broad base of practical and theoretical knowledge that leads to complete understanding of system operations.

JRN 9728. Technical Math I (Sta Eng) (54 hrs)
Basic arithmetic, measurement and approximate numbers, operations with signed numbers, introduction to algebra, interpretation of graphs, and an introduction to plane and solid geometry.

JRN 9729. Technical Math II (Sta Eng) (54 hrs)
Prereq.: JRN 9728
Introduction to trigonometry, vectors (resolution and addition), exponents and roots, radicals and logarithms, and an introduction to mechanics (force, work, energy, power).

JRN 9734. Welding (54 hrs)
Theory, fundamentals of operation, equipment used and techniques recommended for oxygen/acetylene (OAW) and shielded metal arc welding (SMAW). General shop safety practices. Print reading and the interpretation of the American Welding Society welding symbols.

JRN 9735. Locksmithing (54 hrs)
This course will provide Stationary Engineers with the basic locksmithing skills and confidence to undertake and perform duties as a locksmith. These skills will equip them with a foundation from which to expand their knowledge in this field, permitting them to save their employer time and money.

JRN 9736. Backflow Valve Repair (54 hrs)
A study in all areas of training and instruction in the field of backflow, cross connection, backflow prevention, backflow testing and backflow repair.
JRNY 9737. Welding (108 hrs)
A study in all areas of arc welding and cutting for journey-person training and refresher course.

JRNY 9738. Basic Trade Related Electricity (54 hrs)
A study in all areas of basic trade related electricity for journey-person training and refresher course.

JRNY 9739. Backflow Certification (54 hrs)
A study in all areas of training and instruction in the field of backflow, cross connection, backflow prevention, backflow testing and backflow certification.

Architecture
Announcement of Curricula

Architectural Interiors Program
Degree Curriculum
The curriculum in Architectural Interiors, a two-year interdisciplinary course of study, has strong emphasis on both architecture and art in the second, third, and fourth semesters. A special feature of this curriculum is that students, in accordance with their particular interests, may choose either the Option in Architecture or the Option in Art in their first semester.

Enrollment is open to all interested students. However, students are required to satisfy prerequisites before they are admitted to certain courses.

The course of study includes instruction in the following: architecture—orthographic projection, descriptive geometry, perspective, and shades and shadows; two-dimensional basic design; delineation and rendering; materials of construction; watercolor painting; freehand drawing; professional practice/interior design; legal aspects of contracting; architectural technology (drafting); art history; art—basic design; basic drawing; structural analysis and design; industrial design fundamentals; art orientation; and graphic design.

The course of study is designed so that students may satisfy the requirements for graduation from the College. Students who satisfy these requirements and complete the curriculum with an average final grade of C (2.00 grade-point average) or higher receive the degree of Associate in Science and the Award of Achievement in Architectural Interiors.

Entry positions for which graduates who have received the Award of Achievement may qualify include those of drafts-person; delineator; salesperson; furniture designer; and assistant in coordination of colors, fabric, furniture, lighting systems, and exhibits.

Courses Required for the Award of Achievement in Architectural Interiors:
First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>Option in Architecture</td>
<td></td>
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<tr>
<td>ARCH 20 Perpective Draw</td>
<td>3</td>
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<tr>
<td>ARCH 21 Basic Design</td>
<td>3</td>
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<tr>
<td>ARCH 29A Freehand Draw</td>
<td>1</td>
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<tr>
<td>ARCH 48 Intro to Arch</td>
<td>1</td>
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<tr>
<td>Additional graduation requirements and electives</td>
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Second Semester

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<tr>
<th>Course</th>
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<tr>
<td>ARCH 22A Delin &amp; Render</td>
<td>3</td>
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<tr>
<td>ARCH 23 Mat'l of Constr</td>
<td>3</td>
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<tr>
<td>ART 170A Sculpture</td>
<td>3</td>
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<tr>
<td>Additional graduation requirements and electives</td>
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Third Semester

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<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ARCH 30A Interior Design</td>
<td>3</td>
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<tr>
<td>ARCH 50 Architectural Draft</td>
<td>4</td>
</tr>
<tr>
<td>ART 101, 102, or 103 or ARCH 31A or 31B Art Hist: West Pt-1, Art Hist: West Pt-2, or Art Hist: Modern or Hist of Arch</td>
<td>3</td>
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<tr>
<td>Additional graduation requirements and electives</td>
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Fourth Semester

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<th>Course</th>
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<tbody>
<tr>
<td>ARCH 30B Interior Design</td>
<td>3</td>
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<tr>
<td>ARCH 52 Arch CADD</td>
<td>4</td>
</tr>
<tr>
<td>ARCH 160 Professional Prac</td>
<td>3</td>
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<tr>
<td>Additional graduation requirements and electives</td>
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</tbody>
</table>

Recommended electives: ARCH 18A, 18B, 22B, 24, 29B, 32, 52; ART 160A; BIO 20; GNBS 19; MRKT 140; PHOT 51, 55

Architectural Technology
Degree Curriculum
Graduates who have satisfactorily completed the Curriculum in Architectural Technology, a two-year course of study, are qualified for employment in various capacities in architecture, the construction industry, and related fields. Positions that graduates may hold include those of architectural technician, mill-and-cabinet detailer, construction detailer, building materials salesperson, and manufacturer's representative. With experience and further training, graduates may become senior architectural draftspersons, specifications writers, and design draftsmen; or advance to managerial positions in the fields indicated above. Upon successful completion of the curriculum, students receive the Associate in Science degree. Students who complete the curriculum with final grades of C (2.00 grade-point average) or higher in their major technical courses receive the Award of Achievement in Architectural Technology.

The course of study includes instruction in the following: architectural technology and design, basic architectural drawing, estimating and construction costs, mathematics, physics, and structural detailing. Instruction in general education is included so that students may satisfy the College graduation requirements in this area.
Courses Required for the Award of Achievement in Architectural Technology

First Semester

Course                        Units
ARCH 20 Perspective Draw      3
ARCH 23 Mat'l of Constr        3
ARCH 29A Freehand Draw         1
ARCH 48 Intro to Arch, Const & Design  1
PHYC 10 Concept Physics        3
ET 50 Tech Math or MATH 850 Appl Geom... 4 or 3

Second Semester

ARCH 21 Basic Design           3
ARCH 22A Delin & Render        3
ARCH 50 Architectural Draft    4
PHYC 40 Elem Physc             3
Additional graduation requirements

Third Semester

ARCH 51 Architectural Tech     4
ARCH 156 Constr Cost Est       3
CIS 111 or 13 Prog, Basic or Prog, Pascal  3
ET 184 Structural CAD Drafting 3
Additional graduation requirements

Fourth Semester

ARCH 27 Fund of Build Struct   3
ARCH 31A or 31B Hist of Arch   3
ARCH 52 Arch CADD              4
ARCH 160 Professional Practice 3
Additional graduation requirements

Recommended electives: ARCH 24, 29B, 30A, 32, 52; ART 160A, 170A; ECON 1; ENGN 1A; GRPH 124A; HUM 1; SPCH 1

Courses Required for the Award of Achievement in Construction Management

First Semester

Course                        Units
ARCH 20* Perspect Draw        3
ARCH 23 Mat'l of Constr        3
ET 50 Tech Math or MATH 850 Appl Geom... 4 or 3
PHYC 10 Concept Physics        3
Additional graduation requirements

Second Semester

ARCH 48 Intro Arch, Conr, & Design  1
ARCH 50 Architect Draft         4
ARCH 156 Constr Cost Est        3
PHYC 40 Elem Physics            3
Additional graduation requirements

Third Semester

ARCH 27 Fund of Build Struct   3
ARCH 51 Architect Tech         4
ARCH 157 (spring only) Constr Cost Est 2  3
Additional graduation requirements

Fourth Semester

ARCH 160 Professional Practice 3
ACCT 50 Intro to Accounting    4
ENGN 1A Measurements and Plane Surveying  3
TQM 11 Tot Qual Manag: Prin & Elem   3
Additional graduation requirements

*Not required of students who have completed a year of high school mechanical drawing.

Recommended electives: ARCH 29A, 52; BSMA 66 or 68; SMBU 135; R E 189; ECON 1; ENGN 184; SPCH 1; E T 144

Construction Management

Degree Curriculum

Graduates who have satisfactorily completed the Curriculum in Construction Management, a two-year course of study, are qualified for employment in the building and construction industry in a wide variety of positions ranging from those of field assistant and expediter to those of materials clerk and assistant estimator. With experience and further training, graduates may become licensed building contractors, detailers, estimators, foremen, construction superintendents, building inspectors, appraisers, and cost analysts. The California State Contractors License Board gives graduates who receive the Award of Achievement credit for two of the four years of practical experience required of applicants for the State building contractor's license. Upon successful completion of the curriculum students receive the Associate in Science degree.

Students who complete the curriculum with final grades of C or higher in their major technical courses receive the Award of Achievement in Construction Management.

The course of study includes instruction in the following: architectural technology, basic architectural drawing, structural detailing, surveying, estimating and construction costs, business operation, business records, and legal aspects of contracting. Instruction in general education is included so that students may satisfy the College graduation requirements in this area.

Design Firm Management

Degree Curriculum

Students who satisfactorily complete the Curriculum in Design Firm Management, a two-year course of study, are qualified for employment as office managers, project secretaries, or other various administrative positions in architectural and engineering firms, the construction industry or related fields. Positions to which graduates have advanced after gaining experience and undertaking further study include those of Directors of Administration, Finance or Human Resources.

The course of study includes an introduction to architecture, construction, accounting, marketing, supervision, computers, and management. The course of study is also designed to allow a student to satisfy the requirements for graduation from the College.

Upon successful completion of the curriculum, students receive an Associate in Science Degree. Students who complete the curriculum with final grades of C (2.00 grade point average) or higher will receive an Award of Achievement in Design Firm Management.
Courses Required for the Award of Achievement in Design Firm Management
First Semester

Course                               Units
ARCH 48 Intro Arch. Constr & Design    1
ARCH 160 Professional Practice        5
ACCT 1 Financial Accounting           4
BSEN 74 Business Correspondence       5
General Education & Graduation Requirements 5

Second Semester

ARCH 23 Matl of Constr                3
MRKT 140 Marketing                    3
MABS 60 Microcomputer Applications for Business 3
General Education & Graduation Requirements 6

Third Semester

*ARCH 31B History of Arch             3
ARCH 90 Field Experience              3
CLW 18A Commercial Law                3
FIN 136 Introduction to Financial Planning 3
General Education & Graduation Requirements 3

 Fourth Semester

ARCH 32 Bay-Region Architecture - Its Heritage    3
CLW 18B Commercial Law                3
SUPV 21 Intro to Supervision/Management    1.5
SUPV 222 Communications for Supervisors   1.5
General Education & Graduation Requirements 6

Electives

*ART 151-108 Art History (student to select one) ... 3
ACCT 2 Managerial Accounting           4
*ECON 1 Principals of Economics         3
*CIS 11 Intro to Commercial Data Processing      3
+WDPR 31A Beg Word Proc-Word for Win1.5 BSEN 70  Fund of Engl Grammar & Comp 4
SMBS 135 Own & Oper of Small Bus         3
*PSC 11 Physical Science                3
*PSYC 26 Psych Processes and Human Rel 3

*Satisfies General Education & Graduation requirements for A.S. degree

†Recommend that the student select two of the four classes offered.

Architecture
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

ARCH 18A. Residential Interior Design (3)
Lec-3, field trips
ARCH 18A not a prereq. for ARCH 18B
A study of the basic elements and principles of design, line, texture, space, form, balance; period styles of furniture from ancient to modern; wall and window treatments; floor coverings and hand-made rugs; study of the effective use of space in the home; furniture buying and arranging and working with decorative accessories. Emphasis on individual creativeness in combining all aspects of interior design. CSU

ARCH 18B. Residential Interior Design (3)
Lec-3, field trips
ARCH 18A not a prereq. for ARCH 18B
A study of the selection and use of fiber and decorative fabrics for interior design purposes; space design, floor plans, elevations and renderings; works of past and present architects and designers; lighting and color theory, color schemes and interaction of color, and color predictions for interior design. In-class work in effectively combining fabrics, wall coverings, floor treatments, pattern and color mixing. Study of presentations and portfolios for the student and the professional. Emphasis is on creativity in total interior design coordination and problem-solving. CSU

ARCH 20. Orthographic Projection, Descriptive Geometry, Perspective, and Shades and Shadows (3)
Lec-2, lab-4, field trips
Basic techniques used in graphic communication; fundamental principles of orthographic projection and isometric drawing; theory and methods of architectural perspective, and shades and shadows. CSU

ARCH 21. Basic Design (3)
Lec-2, lab-4, field trips
Advise: Completion/concurrent enrollment in ARCH 29A Basic design as applied in the built environment, including color, space, line, form, texture; two-dimensional and three-dimensional presentations. CSU/UC

ARCH 22A. Delineation and Rendering (3)
Lec-2, lab-4, field trips
Prereq.: ARCH 20; completion/concurrent enrollment in ARCH 29A
Basic techniques used in graphic communication. Three-dimensional representations with various media expressing architectural ideas. CSU/UC

ARCH 22B. Delineation and Rendering (3)
Lec-2, lab-4, field trips
Prereq.: ARCH 22A
A continuation of ARCH 22A, with selected problems. CSU

ARCH 23. Materials and Methods of Construction (3)
Lec-3, field trips
A survey of development, use, and application of building materials; the ways in which they satisfy utilitarian needs and provide visual satisfaction. CSU/UC

ARCH 24. Design (3)
Lec-2, lab-4, field trips
Prereq.: ARCH 21 (ART 125A), ARCH 22A
Introduction to the three-dimensional design process. Theory of principles and procedures of creative problem solving. CSU/UC

ARCH 25. Design (3) sp
Lec-2, lab-4, field trips
Prereq.: ARCH 24
Procedure and process in architectural design; building programming, building systems, problem solving, and presentation. CSU/UC
ARCH 26A. Color Media (2)
Lec-1, lab-3, field trips
Color techniques and media. Painting and rendering in watercolor, with emphasis on outdoor subjects and landscapes. CSU

ARCH 26B. Color Media (2)
Lec-1, lab-3, field trips
A continuation of ARCH 26A, with selected problems. CSU

ARCH 27. Fundamentals of Building Structures (3)
Lec-3
Advis: 1 yr. each high school algebra and geometry
Awareness of structural concepts; fundamental aspects and principles of basic structural forms, loads and materials, with emphasis on the language used in the building field. CSU/UC

ARCH 29A. Freehand Drawing (1)
Lec-1, lab-1, field trips
Development of skill in freehand drawing methods of visual communication, and in seeing and expressing form, value, and texture; development of ability to express original conceptions. CSU/UC

ARCH 29B. Freehand Drawing (1)
Lec-1, lab-1, field trips
Prereq.: ARCH 29A
Further development of skill in freehand drawing methods of visual communication. CSU/UC

ARCH 30A. Professional Practice/Interior Design (3)
Lec-2, lab-4, field trips
Prereq.: ARCH 21 and 29A; or ART 125A and 130A and ARCH 22A
Procedure in architectural interior design; measurement, graphic presentation methods; programming and outline specifications; relation of interior spaces to structure; electrical, and mechanical systems; spatial requirements for human activities; and selection of furnishings. CSU

ARCH 30B. Professional Practice/Interior Design (3)
Lec-2, lab-4, field trips
Prereq.: ARCH 30A
Group space analysis and arrangement; relation of interior activity functions to building systems; circulation; related graphics and signing; illumination; color and material sample kits. CSU

ARCH 31A. History of Architecture (3)
Lec-3
A survey of the history of architecture of the western world from ancient Egypt through the end of the Middle Ages. CSU/UC

ARCH 31B. History of Architecture (3)
Lec-3
A survey of the history of architecture of the western world from the early Renaissance through the twentieth century. CSU/UC

ARCH 32. Bay-Region Architectural History (3) sp
Lec-3
CR/NC avail.
A survey of Bay Region building modes from pre-Hispanic days to the present; the inception and growth of towns and cities, and the influences that have shaped their urban forms and their architecture, with an introduction to contributing architects and planners, reflecting the growth and significance of their professions in the late nineteenth and twentieth centuries. CSU/UC

ARCH 33A-B. Architectural Model Building (2)
Lec-1, lab-3
Prereq.: ARCH 33A For ARCH 33B
Three dimensional design through constructing and photographing architectural models. CSU

ARCH 34. History of Modern Architecture (3)
Lec-3
A survey of architectural history of the nineteenth and twentieth centuries in Europe, Asia, and America from the time of the Industrial Revolution to the present. CSU/UC

ARCH 48. Introduction to Architecture, Construction and Design Related Professions (1)
Lec-2, field trips
Overview of professional and technical careers in architecture, interior design, landscape architecture, construction management, related consulting engineering professions and building construction professions. Analysis of the design process and conditions affecting design and building. CSU

ARCH 50. Architectural Technology - Drafting (4)
Lec-3, lab-6, field trips
Prereq.: ARCH 20 or ET 104; ARCH 23
Building and structural nomenclature, wood frame construction, detailing and basic site development. Familiarization with professional publications, technical bulletins, and the literature used in research and development. CSU

ARCH 51. Architectural Technology (4)
Lec-3, lab-6, field trips
Prereq.: ARCH 50
Analysis of assemblies and detailing for multistory, heavy construction types of buildings. Synthesis of office production and construction procedures; structural terminology; mechanical plumbing, and electrical systems. Visit to offices and field work. CSU

ARCH 52. Architectural CADD (4)
Lec-3, lab-6, field trips
Prereq.: ARCH 50
The students will first learn the basics of CADD and use the school's software to do 2D drawings with emphasis in architecture. In the second half of the course, students will work on 3D modeling of buildings with advanced CADD software. Includes drawing presentation of the building design. CSU
ARCH 52A-52B = ARCH 52
ARCH 52A. Architectural CADD (2)
Lec-1, lab-4
Prereq.: ARCH 50
First half of ARCH 52
Basic computer-aided design and drafting using CADD software as applied in the design professions. Using a PC and AutoCAD software to develop basic drawings and drafting skills, with a special emphasis on architecture. CSU

ARCH 52B. Architectural CADD (2)
Lec-1, lab-4
Prereq.: ARCH 52A
Repeat: max. 4 units
Second half of ARCH 52
Computer-aided design and drafting using AutoCAD as applied in the design profession. Using a PC and CADD system to develop basic drawings and drafting skills with an emphasis on architecture. Introduction to 3D CADD modeling ideas and techniques as applied to an architectural project. CSU

ARCH 90. Field Experience (3)
Work-15, conf-0.5
Coreq.: Min. of 4 units in addition to this course.
Repeat: max. 6 units
Supervised work experience in the fields of architecture, construction management, design firm management, and interior design. CSU

ARCH 156. Construction Cost Estimating I (3)
Lec-3
An introduction to types of cost estimates: job and general office overhead; units of measure; procedures and processes of material quantity surveys based on construction methods, 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; total project cost. Routine operations of a construction office or company. Survey of Critical Path Method (CPM) scheduling. 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

IDST 70. Architecture and Diversity (3)
Lec-3, field trips
CR/NC avail.
An introductory critical review of the building and design heritage of women all over the world and of indigenous people's architecture in Africa and Latin America from tribal dwellings to monumental structures, followed by a series of architectural and engineering studios introducing students to basic building and design skills: developing a project, drawing a floor plan, building an architectural model, using drafting tools and computers. Emphasis on hands-on skills. CSU

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**Art**

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.

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**Announcement of Courses**

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.**

**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 101, 122, & 123). All Art History courses may be taken in any sequence. College-level reading and writing skills are advised.

**ART 101. Western Art History (3)**
Lec-3, field trips
A survey of Western art from 35,000 B.C. to 500 A.D. The course will begin with Paleolithic cave paintings and continue to the Roman and Early Byzantine and Early Medieval periods. 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 societies, values, and ideas that gave birth to Western art. CSU/UC