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/NCR avail." and "CR/NCR 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, and the abbreviation UC indicates that the course is acceptable at all campuses of the University of California.

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.

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 Administ of Justice ....... 3
HLTH 17 Public Safety - First Responder ...... 3
Additional graduation requirements ......... 6

Second Semester
ADMJ 51 Juvenile Proc
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
SPCH 12 Fundamentals of Oral Commun ............. 3
Additional graduation requirements .................. 6

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

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
HILTH 17 Public Safety - First Responder
or EMT 101 EMT-Fire Serv ......................... 3-7.5
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 with a grade of C or higher while at City College. Credit/No-Credit graders will not be accepted toward completion of a certificate program.

Fire-Science Technology
General Information

The curriculum in Fire-Science Technology, a two-year course of study, is designed to provide training for three groups of students: those who plan to seek employment as members of city and county fire departments and other governmental agencies dealing with fire prevention, fire investigation, fire suppression, and fire protection engineering; those who are employed in fire service; those who are employed in the fire service who want further technical training in their field to prepare for promotion and who desire further career development in various aspects of the fire protection field; and those who plan to seek private employment as safety instructors in industry, insurance adjusters, fire-protection technicians, fire equipment salespeople, fire-equipment installers, and architectural assistants.

Admission. Enrollment is open to all interested students.

Course of Study. The California Community College Association of Fire Technology Directors recommends that five core courses be offered as a basis for all fire technology programs in the State of California. These courses are: introduction to fire protection, fire prevention, fire protection equipment and systems, building construction for fire protection, and fire behavior and combustion. These core courses serve as the basis of the fire science technology program at City College of San Francisco. These courses represent the base knowledge, the foundation, upon which a student can build, regardless of where he/she works in the fire protection field.

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.
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.

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>F SC 68A Fire Preven 1A: Intro</td>
<td>2</td>
</tr>
<tr>
<td>F SC 71A Fire Instructor 1A: Instr Techn I</td>
<td>2</td>
</tr>
<tr>
<td>F SC 84 Fire Management 1: Manag/Superv</td>
<td>2</td>
</tr>
<tr>
<td>F SC 88A Fire Command 1A: Princ</td>
<td>2</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>F SC 68B Fire Preven 1B: Code Enforce</td>
<td>2</td>
</tr>
<tr>
<td>F SC 71B Fire Instr 1B: Instr Techn</td>
<td>2</td>
</tr>
<tr>
<td>F SC 72 Fire Invest 1A: Origin &amp; Cause</td>
<td>2</td>
</tr>
<tr>
<td>F SC 88B Fire Command 1B: Haz Mls</td>
<td>2</td>
</tr>
</tbody>
</table>

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.

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>F SC 50 Intro to Fire Sci</td>
<td>3</td>
</tr>
<tr>
<td>F SC 52 Fire Protect Equip &amp; Sys</td>
<td>3</td>
</tr>
<tr>
<td>F SC 64 Fire Behavior and Combustion</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>F SC 53 Bldg Constr &amp; Fire</td>
<td>3</td>
</tr>
<tr>
<td>F SC 61A Fire Prevention</td>
<td>3</td>
</tr>
</tbody>
</table>

Forensic Identification

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 enforce-

ment 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMJ 52 Concepts of Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 62 Criminal Investigation</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 63 Criminal Identification</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMJ 66 Physical Evidence</td>
<td>3</td>
</tr>
<tr>
<td>ADMJ 53 Legal Aspects of Evidence</td>
<td>3</td>
</tr>
</tbody>
</table>

Fire Safety Director 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 239-3559
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: AJ 4

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.  
CSU/UC/CAN: AJ 6

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  
Required of all ADMJ majors in the freshman year  
An analysis of the causes of crime; overview of modern crime and police problems; the different types of criminals; organized crime; white-collar crime; the 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: AJ 2

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/UC/CAN: AJ 8

ADMJ 63. Criminal Identification (3)  
Lec-3  
The theory 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 criminalistics 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 Systems (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 staffs. 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)
Total in 25 wks: lec-25, lab-15
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; learning criminal law, patrol procedures, investigation 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 101 will not be accepted in lieu of ADMJ 51, 52, 53, 54, 57, 70A, 70B, 70C, and 70D.

Fire Science
CREDIT, DEGREE APPLICABLE COURSES:

F SC 50. Introduction to Fire Science (3)
Lec-3
CR/NCR 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
Portable fire-extinguishing systems; protection systems for special hazards; fire-alarm and detection 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
Driving laws; driving technique; construction and operation of pumping engines, ladder trucks, aerial platforms, and specialized equipment; maintenance of apparatus. CSU

F SC 61A-61B. Fundamentals of Fire Prevention (3-3)
Lec-3 ea.
Organization and function of fire prevention; inspections; recognition of fire hazards; ways of removing fire hazards; enforcement of fire regulations; public relations as affected by fire prevention. CSU

F SC 62. Rescue Practices (3)
Lec-3
Rescue tools, search guidelines, and situations involving elevation differences, water, agriculture, and caves; rescue vehicles and extrication equipment; extrication from vehicles, buses, trains, and agricultural and industrial situations; evacuation from a variety of situations. 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/NCR 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, fireworks, and extinguishing systems. CSU

F SC 68B. Fire Prevention 1B (2)
Lec-2
CR/NCR 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, fireworks, and extinguishing systems. CSU

F SC 70. Fire Investigation (3)
Lec-3
Prereq.: F SC 61A
Determination of fire causes: accidental, suspicious, incendiary; types of fires, related laws, introduction to arson and incendiarism; recognition and preservation of evidence; interviewing witnesses and suspects; arrest and detention procedures; court procedures and giving court testimony; introduction to terrorist tactics. CSU

F SC 71A. Fire Instructor 1A (2)
Lec-2
CR/NCR avail.
First of a two-course series and a standard State Board of Fire Services accredited course. Topics include: occupational analysis, course outlines, concepts of learning, levels of instruction, behavioral objectives, using lesson plans, the psychology of learning, and evaluation of effectiveness. Application of major principles of learning through practice teaching presentations. Applicable to Fire Instructor I, Fire Officer, and Public Education Officer I certifications. CSU

F SC 71B. Fire Instructor 1B (2)
Lec-2
CR/NCR avail.
Prereq.: F SC 71A
Second in a two-course series and a standard State Board of Fire Services accredited course. Topic include: Preparing course outlines, establishing levels of instruction, constructing behavioral objectives and lesson plans, instructional aid development, fundamentals of testing and measurements, test planning, evaluation techniques and tools. Includes student teaching demonstrations. Applicable to Fire Instructor I, Fire Officer, and Public Education Officer I certifications. CSU

F SC 72. Fire Investigation 1A (2)
Lec-2
CR/NCR 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 84. Fire Management 1 (2)
Lec-2
CR/NCR 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/NCR 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
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 90. Driver/Operator 1A (2)
Lec-2
CR/NCR avail.
Information on driver techniques for emergency vehicles and techniques of basic inspection and maintenance for emergency vehicles, including actual driving exercises under simulated emergency conditions. Applicable to Driver/Operator 1 certification from the State Fire Marshal's Office. CSU

F SC 105A-E. Fire Protection Work Experience (1-3)
CR/NCR avail.
Prereq.: FS C 50
Repeat: max. 6 units
Application of knowledge gained in FS 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-D. Fire Protection Work Experience (3)
Work-15
F SC 106. High Rise Fire Safety Director (1.5)
Lec-3 (9 wks)
CR/NCR 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 (14 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 14 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

HITH 17. Public Safety - First Responder (3)
Lec-3
CR/NCR avail.
Instruct public safety personnel who may arrive first to medical emergencies. Training will provide public 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. American Heart Association Basic Life Support Provider (BLS-C) and Advanced Level First Aid cards will be awarded. CSU

African American Studies
Announcement of Courses
(For the curriculum in African American Studies, see also the "Program in Ethnic Studies."

CREDIT, DEGREE APPLICABLE COURSES:
AFAM 10. Independent Study (3)
Ind st-15
Advise: Any two of the following courses: AFAM 30, 50, 51, or ECON 30
Repeat: max. 6 units
Reading and research in African American studies. The student is required to submit a major essay on a topic that the instructor has approved in advance. CSU/UC

AFAM 30. African American Consciousness (3)
Lec-3, field trips
CR/NCR avail.
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. African American Women in the United States (3)
Lec-3
Analysis of the Black woman in America from 1619 to the present; particular emphasis on struggles for rights in American society and on contributions 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 (3)
Lec-3, field trips
A survey of the heritage of African civilizations and African Americans from the colonial times to the present. All art will be discussed from both a critical and historical perspective, with regard to formal visual elements of style and the societies, values and ideas that gave birth to African American Art. CSU/UC

BCST 104. Minorities and Mass Media (3)
Lec-3
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 records. Ways in which minorities have reacted to the image through general and ethnic media outlets. CSU/UC

ECON 30. Economics of the African American (3)
Lec-3
An introduction of the principles of Black political economy. Topics will include: Black employment, employment discrimination, Black capitalism, the Black underclass, homelessness and community economic development. The empirical link between race, class and income distribution will also be examined. CSU/UC

ENGL 32A. Early African American Fiction (3)
Lec-3
Prereq.: ENGL 1A
Not open to students who are enrolled in or who have completed ENGL 34A
Explore and analyze African American fiction from 1890 to 1940. CSU/UC

ENGL 32B. Contemporary African American Fiction (3)
Lec-3
Prereq.: 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

ENGL 34A. Early African American Fiction (3)
Lec-3
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
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
Prereq.: 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
CR/NCR 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/NCR 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/NCR 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)
Lec-3
CR/NCR 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/NCR 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
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
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/NCR 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
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/NCR 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

MUS 8A-8B. Jazz and Other Popular Piano Styles (1)
Lec-3, field trips CR/NCR avail.
Advise: 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/NCR 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/NCR 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/NCR avail.
A survey of music generated by America's diverse populations including Latino, African American, Hawaiian, Native American, Cajan, and Puerto Rican. CSU/UC

MUS 41. African Drumming Ensemble (1)
Lab-3, field trips CR/NCR avail.
Repeat: max. 4 units
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. Afro-Haitian Dance (1-1-1)
Conf-1, lab-1
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 7. American Politics and the African American Community (3)
Lec-3 CR/NCR avail.
Advise: 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 48. Government and Politics of Africa (3)
Lec-3 CR/NCR 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. The Psychology of Minority Groups (3)
Lec-3 CR/NCR avail.
Not open to students who are enrolled in or who have completed PSYC 23
An examination of the psychological aspects of minority group relations. A psychohistorical analysis of the treatment of African Americans, Asian Americans, Mexican Americans/ Latino Americans, and Native Americans in the USA. Emphasis on the strengths and unique contributions of minorities to the USA. CSU
PSYC 23. The Psychology of Minority Groups (3) 
Lec-3 CR/NCR avail.
Prereq.: PSYC 1
Not open to students who are enrolled in or who have completed PSYC 22
An examination of the psychological aspects of minority group relations. A psychobiological analysis of the treatment of African Americans, Asian Americans, Mexican Americans/ Latino Americans and Native Americans in the USA. Emphasis on the strengths and unique contributions of minorities to the USA. CSU/UC

TH A 8. Introduction to African American Theatre (3) 
Lec-3, field trips
Designed to acquaint students with African American theatre. Lectures, readings from the works of African American dramatists; demonstrations; and attendance, when appropriate, at live theatre productions in the Bay Area. CSU/UC

TH A 17. Multi-Cultural Theatre: African American, Asian American, and Hispanic (3) 
Lec-3, field trips CR/NCR avail.
An introductory study of African American, Asian American, and Latin American theatre in the United States. Lectures, demonstrations, guest speakers, and attendance at performances. CSU/UC

---

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 power-plants, 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:

Power-Plant Maintenance: Entry positions as assistant mechanic, general power-plant 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 power-plant technician (licensed), supervisor, and inspector.

Avionics Maintenance-Entry positions as 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 curriculum 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 curriculum 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 to applicants prior to enrolling in the Aeronautics program that ESL students complete ESL 72 with a final grade of "C" or higher or receive a placement of ESL 82 or 2) students enrolled in English classes complete English 90 with a "C" or higher or receive a CSF placement of English 92 or higher 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 adviser 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 Power-Plant 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. Power-Plant 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 Power-Plant and Airframe-Maintenance Technology
First Semester
Course Units
AIRC 101 Intro to Aircraft Maint .................. 8
AIRC 102 Basic Elect Sys ........................ 8
Additional graduation requirements

Second Semester
AIRC 103 Power-Plant Theory & Maint ............ 8
AIRC 104 Propul Power-Plant Sys .................. 8
Additional graduation requirements
Option in Aircraft Power-Plant Maintenance Technology

Third Semester
AIRC 105 Power-Plant Comp ...................... 8
AIRC 106 Aircraft Metal Struct .................... 8
AIRC 116 Aircraft Mat Proc ....................... 1
Additional graduation requirements

Fourth Semester
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 & Electr 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 the 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 Power-Plant Maintenance Technology

Employment. The program of study in the Certificate Curriculum in Aircraft Power-Plant Maintenance Technology is designed so that students may gain the skills and knowledge required for employment in various capacities in power-plant 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 power-plant 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 power-plant technician (licensed), supervisor, and inspector.

Requirements for the Certificate of Completion. Students may obtain the Certificate of Completion in Aircraft Power-Plant 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>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIRC 101 Intro to Aircraft Maint</td>
<td>8</td>
</tr>
<tr>
<td>AIRC 102 Basic Elect Sys</td>
<td>8</td>
</tr>
<tr>
<td>AIRC 103 Power-Plant Theory &amp; Maint</td>
<td>8</td>
</tr>
<tr>
<td>AIRC 104 Propul Power-Plant Sys</td>
<td>8</td>
</tr>
<tr>
<td>AIRC 105 Power-Plant Comp.</td>
<td>8</td>
</tr>
<tr>
<td>AIRC 116 Aircraft Mat Proc.</td>
<td>1</td>
</tr>
</tbody>
</table>

Permission to Take F.A.A. Examination. The Federal Aviation Administration has approved the Certificate Curriculum in Aircraft-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 Power-Plant 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 avionics 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>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 60 Electronics I - DC/AC Circuit Analysis</td>
<td>4</td>
</tr>
<tr>
<td>ET 63 Intro to Digital Circuits and Techniques</td>
<td>3</td>
</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>
Aircraft Maintenance
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

AIRC 101. Introduction to Aircraft Maintenance (8)
Lec-5, lab-10, field trips
Prereq.: Admission to Aero. Dept.
An orientation to the aircraft industry. History and theory of flight. General requirements for technicians. Aircraft drawings, ground operations and service, aircraft hardware and materials, nondestructive testing and heat treating process. Practical use of hand tools applicable to the job of a technician. CSU

AIRC 102. Basic Electricity and Electrical Systems (8)
Lec-5, lab-10, field trips
Prereq.: Admission to Aero. Dept.
An insight into the basics of electricity applicable to the responsibilities of the technician studying and checking operational aircraft electrical components and systems. Maintaining the standards of F.A.A. and the industry in overhauling the electrical components. Specific application to basic F.A.A. regulations, maintenance records and forms, and aircraft weight and balance. CSU

AIRC 103. Power-Plant Theory and Maintenance (8)
Lec-5, lab-10, field trips
Prereq.: Admission to Aero. Dept.
Procedures of power-plant maintenance with reciprocating engines. Construction of and overhaul techniques of power-plant to F.A.A. requirements. The use of tools and equipment to maintain airworthy standards of repair to power-plants. CSU

AIRC 104. Propulsion Power-Plant Systems (8)
Lec-5, lab-10, field trips
Prereq.: Admission to Aero. Dept.
Complete coverage of the power-plant electrical system, including the ignition system used for all propulsion power-plants. The maintenance of fire detection and protection systems and the internal and external powerplant lubricating system. Procedures of power-plant maintenance with turbine engines and propulsion units. Construction of the overhaul techniques of power-plants to F.A.A. requirements. CSU

AIRC 105. Power-plant Components and Propellers (8)
Lec-5, lab-10, field trips
Prereq.: Admission to Aero. Dept.
Theoretical and practical approach to fuel-system control and the maintenance of each system component. The theory and the practical application of propeller maintenance to F.A.A. standards. Induction systems, engine instrument systems, engine exhaust systems, and engine cooling systems. 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, field trips
Prereq.: Admission to Aero. Dept.
Complete hydraulic and pneumatic systems and components, with applied maintenance repair techniques. Airframe fuel systems and airframe auxiliary 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
109I Basic AeroDynamics and Flight Procedures for Maintenance Technicians. CSU
109J Advance Non Destructive Inspection. CSU
109K 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 Airmen'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; naviga-
tion systems providing guidance information and data for
automated steering. Analysis of systems operation, fundamen-
tal 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 mainte-
nance 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 mainte-
nance 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 con-
erversational level. CSU/UC

American Studies
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

AM C 11A-11B. American Civilization (3-3)
Lec-3
(AM C 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 abehavioral science course, but not both. All other
anthropology courses are behavioral science courses.)

ANTH 1. Biological Anthropology (3)
Lec-3
CR/NCR avail.
The biological nature of humans and the changes that have
occurred from prehistoric times to the present. The place of
humans in nature, vertebrate and primate evolution, fossil
evidence for human antiquity, individual and population
genetics, mechanisms of evolution, and human variation. CSU/
UC/CAN: ANTH 2

ANTH 2. Archeology and Prehistory (3)
Lec-3
CR/NCR avail.
The methodology and purposes of archeology; the discoveries
and development of archeology from Pompeii to Tut-Ankh-
Amen; the nature and evolution of prehistoric cultures from
the earliest known origins in East Africa to the acquisition of
agriculture and civilization including the prehistory of North
America. CSU/UC/CAN: ANTH 6
ANTH 3. Introduction to Social and Cultural Anthropology (3)
Lec-3 CR/NCR 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 4

ANTH 3AC. Introduction to Cultural Anthropology:
Focus on American Cultures (3)
Lec-3 CR/NCR 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/NCR 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/NCR 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/NCR 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/NCR 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/NCR 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/NCR avail.
Introduction to the development of Philippine culture and the impact of Western civilization on the people; emphasis on the ways of life in Philippine rural and urban areas and also tribal cultures. CSU/UC

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

ANTH 20. Anthropology of Homosexualities (3)
Lec-3 CR/NCR 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/NCR 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/NCR 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:

Lec/lab-6, Field trips
Prereq.: a State of Calif. Indentured Apprentice
Study and practices in automotive body and fender repair and
refinishing as related training for body/fender apprentices.
Instruction includes automotive spray painting, welding, detail-
ing, customizing, panels, tools, equipment, welding, preparation
of surfaces, suspension systems, frame straightening, body
filler materials, alignment, adjusting, and fitting panels, fen-
ders, doors, hoods and lids, glass service and replacement,
and estimating cost and work time for repair and refinishing of
collision and paint damage. CSU

NONCREDIT COURSES:

APPR 9703. Bricklaying Apprentice (105 hrs)
Prereq.: GED 2105
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, calcula-
tions, simple equations, mixing ratios, wall construction, piers,
fireplaces, arches, targetting and stonework using brick, blocks
and other materials.

APPR 9710. Meat Cutting Apprentice (90 hrs)
Prereq.: GED 2105
Training required for entry level employment as a journey-
person in the meat cutting trade. Includes history, knives,
tools, equipment, sanitation, mathematics, weights, measures,
USDA grades, breakdown of beef, veal, pork and lamb, variety
meats, poultry, fish, sausage making, storage and merchandis-
ing.

APPR 9713. Plastering Apprentice (72 hrs)
Study of and practice in the trade of plastering as required by
the apprenticeship program established by the local county
apprenticeship committee and approved by the Division of
Apprenticeship Standards Department of Industrial Relations,
State of California. Related instruction includes: safety, mathe-
matrics, 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, trouble-
shooting residential plumbing problems and recommended in-
dustrial practices.

APPR 9715. Refrigeration/Air Conditioning
Apprentice (54 hrs)
Preparation for entry-level employment as a journeyperson 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 Apprentice (57hrs)
Prereq.: GED 2105
Training for entry level employment as a journeyperson in the
roofing trade. Includes safety, trade practices, occupational
health and hazards, first aid, CPR, plans and specifications,
cold-applied roofing systems, waterproofing systems, damp
proofing system, roofing supplies and materials, hand tools,
power tools, built-up roofs, asphalt, wood shingling, rigid
roofs, re-roofing, maintenance and repair of roofs.

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
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 cook-
ing, "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 journeyperson level of skills, knowl-
dge, 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.
Journey-person

JRNY 106. High Rise Fire Safety Director (1.5)
Lec-3 (9 wks) CR/NCR 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
JRNY 106 = F SC 106

JRNY 9701. Air Conditioning - Refrigeration I (54 hrs)
Introduction to the craft of air conditioning and refrigeration maintenance as practiced by journey persons in the trade. Hands-on use of electrical instruments, hand, heat, and power tools.

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

JRNY 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.

JRNY 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.

JRNY 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.

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

JRNY 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.

JRNY 9711. Controls II (Sta Eng) (54 hrs)
Prereq.: JRNY 9710
Continuation of JRNY 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.

JRNY 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 buildings HVAC systems, electronic access and fire alarm systems. Hands-on diagnostics of systems.

JRNY 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.

JRNY 9714. Electricity II (Sta Eng) (54 hrs)
Prereq.: JRNY 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.

JRNY 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.

JRNY 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.

JRNY 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.

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

JRNY 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.

Architecture
Announcement of Curricula

Architectural Interiors Program
Degree Curriculum
The curriculum in Architectural Interiors, a two-year interdepartmental 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: architectural–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 draftsman; 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
Course Units
Option in Architecture
ARCH 20 Perspective Draw 3
ARCH 21 Basic Design 3
ARCH 29A Freehand Draw 1
ARCH 48 Intro to Arch 1
Additional graduation requirements and electives

Option in Art
ARCH 20 Perspective Draw 3
ART 125A Basic Design 3
ART 130A Basic Draw 3
Additional graduation requirements and electives

Second Semester
ARCH 22A Delin & Render 3
ARCH 23 Mat'l of Constr 3
ART 170A Sculpture 3
Additional graduation requirements and electives

Third Semester
ARCH 30A Interior Design 3
ARCH 50 Architectural Draft 4
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 3
Additional graduation requirements and electives

Fourth Semester
ARCH 30B Interior Design 3
ARCH 52 Arch CADD 4
ARCH 160 Professional Pract 3
Additional graduation requirements and electives

Recommended electives: ARCH 18A, 18B, 22B, 24, 29B, 32, 52; ART 160A; BIO 20; GNBS 119; 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

Second Semester
ARCH 22A Delin & Render 3
ARCH 23 Mat'l of Constr 3
ART 170A Sculpture 3
Additional graduation requirements and electives

Third Semester
ARCH 30A Interior Design 3
ARCH 50 Architectural Draft 4
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 3
Additional graduation requirements and electives

Fourth Semester
ARCH 30B Interior Design 3
ARCH 52 Arch CADD 4
ARCH 160 Professional Pract 3
Additional graduation requirements and electives

Recommended electives: ARCH 18A, 18B, 22B, 24, 29B, 32, 52; ART 160A; BIO 20; GNBS 119; MRKT 140; PHOT 51, 55.
Second Semester
ARCH 21 Basic Design ........................................... 3
ARCH 22A Delin & Render ........................................ 3
ARCH 50 Architectural Draft .................................... 4
PHYC 40 Elem Phyc ............................................. 3
Additional graduation requirements

Third Semester
ARCH 51 Architectural Tech ...................................... 4
ARCH 156 Constr Cost Est ....................................... 3
CIS 111 or 133 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 11; SPCH 11

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 expeditor 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.

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, Constr, & 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 101 Total 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 11; E T 144

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 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 ........................... 3
ACCT 1 Financial Accounting .............................. 4
BSN 74 Business Correspondence ......................... 3
General Education & Graduation Requirements ....... 5

Second Semester
ARCH 23 Mat’l of Constr ....................................... 3
MRKT 140 Marketing ........................................... 3
MABS 60 Microcomputer Applications for Business .. 3
General Education & Graduation Requirements ....... 6
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
Advis: ARCH 21 and 29A or ART 125A and 130A; 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/NCR 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 Professions (1)
Lec-2
Overview of professional and technical careers in architecture, architectural interior design, construction management, city planning, and landscape architecture; historical development of architectural professions; analysis of the design process and conditions affecting building design; relationships with engineers, other construction professionals, and construction crews. CSU

ARCH 50. Architectural Technology-Drafting (4)
Lec-3, lab-6, field trips
Prereq.: ARCH 20 or TECH 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 CAD (4)
Lec-3, lab-6, field trips
Prereq.: ARCH 50
The students will first learn the basics of CAD 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 CAD software. Includes drawing presentation of the building design. CSU
ARCH 52A-52B = ARCH 52

ARCH 52A. Architectural CAD (2)
Lec-1, lab-4
Prereq.: ARCH 50
First half of ARCH 52
Computer-aided design and drafting systems and applications in the design profession. Basic drawings and drafting on the College's PC CAD system with special emphasis on architecture. CSU

ARCH 52B. Architectural CAD (2)
Lec-1, lab-4
Prereq.: ARCH 52A
Second half of ARCH 52
Computer-aided design and drafting systems and applications in the design profession. Basic drawings and drafting on the College's PC CAD system with special emphasis on architecture. 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, field trips  
Procedures and processes in material quantity surveys based on working drawings and specifications. CSU

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

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

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

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

ART

The City College Art Department offers 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.

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 (121, 122, & 123). All Art History courses may be taken in any sequence.

Advis.: college-level reading and writing skills

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

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

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

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

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