

# PROGRAMS AND COURSE DESCRIPTIONS



**ADMINISTRATION OF JUSTICE**

All areas of Administration of Justice require that individuals possess the personal and physical qualities essential to effective peace officers. Many employment opportunities currently exist for individuals desiring entrance into law enforcement or related fields at various governmental levels. Security and corrections are fast-growing professions. Individuals interested in these professions should understand that the work is demanding, requiring a combination of training, education, and experience, along with mental and physical stamina.

The Administration of Justice program is designed to develop a student's understanding of the various operational functions within the criminal justice system. The educational emphasis will be the examination of crime causation, functions of law enforcement, criminal court system, and corrections. Students majoring in this subject area can prepare themselves for careers in law enforcement, corrections, and security at both the operational and administrative levels.

Careers in the criminal justice field are found at the federal, state, county, and city levels.

Careers at the state, county, or city level usually require a high school diploma, but an associate's degree is preferable. Careers in law enforcement usually start with Police Academy Training. The modular format provides the opportunity to become a reserve officer while completing Module II and III of training. A Module I graduate may elect to become a reserve officer or may apply for a full-time position with a law enforcement agency in California.

Careers in Forensics - the application of science and technology to the analysis of physical evidence - may be entered through the Crime Scene Investigation course (AJ 67) and the Fingerprint Recognition and Classification course (AJ 31). May become Criminalist. CSULA offers a M.A. degree in Criminalists.

**Career Opportunities**

- Communication Technician
- Correctional Officer
- Criminalist
- Criminologist
- Deputy Sheriff
- Forensic Technician
- Juvenile Correctional Officer
- Police Officer
- Probation Officer
- Security Manager
- Security Officer
- Special Agent/Investigator

**Faculty**

**Full Time**

- Ron Fields
- Michael Visser

**Degrees and Certificates Awarded**

- Associate in Science, Administration of Justice
- Administration of Justice Certificate
- Correctional Science Certificate
- Corrections Certificate
- Fingerprint Recognition and Classification Certificate
- Forensic Specialist Certificate
- Modular Course Level II Certificate
- Modular Course Level III Certificate
- PC 832 Firearms Only Certificate
- PC 832 Law Enforcement Course Certificate
- Police Technician Specialist Certificate
- School Police Course: PC 832.3 Certificate

**Autopsy Assistant Trainee Exam**

Students who wish to take the Autopsy Assistant Trainee exam to seek positions as trainees or interns should take AJ 67, 133, 145; ALDH 139; BIOL 211 (prerequisite: BIOL 100 or 107); and PHOT 101.

**Certificate Programs**

**ADMINISTRATION OF JUSTICE CERTIFICATE**

Prepares the student for a variety of employment opportunities within the Criminal Justice System. Employment opportunities include Corrections, Law Enforcement, Traffic Enforcement, Probation, Parole, Security, Prevention Loss officer, and related Social Worker positions.

Units Required: 24.0

*All of the following must be completed:*

AJ 101	Introduction to Administration of Justice	3.0
AJ 102	Criminal Procedures	3.0
AJ 103	Criminal Law	3.0
AJ 104	Legal Aspects of Evidence	3.0
AJ 126	Traffic Enforcement and Investigation	3.0
AJ 127	Crime and Delinquency	3.0
AJ 133	Writing for Criminal Justice	3.0
AJ 201	Multicultural Issues in Public Safety	3.0

**CORRECTIONS CERTIFICATE**

Prepares the student to meet the legal requirements established by Standards and Training for Corrections (STC), in order to be employed as a city or county correctional officer.

Units Required: 8.0

AJ 64	Basic Corrections Officer Academy	8.0
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**FINGERPRINT RECOGNITION AND CLASSIFICATION CERTIFICATE**

Units Required: 2.5

AJ 31	Fingerprint Recognition and Classification	2.5
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**FORENSIC SPECIALIST CERTIFICATE**

Units Required: 3.5

This certificate meets the standards required of a Forensic Specialist whose duties include processing evidence at crime scenes, packaging and transporting evidence to a crime lab, and testifying in court. The certificate requirements meet the standards set by the Commission on Peace Officer Standards and Training and the College Advisory Committee.

AJ 67	Crime Scene Investigation	3.5
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**LAW ENFORCEMENT MODULAR COURSE LEVEL III CERTIFICATE**

Units Required: 6.5

This certificate will be awarded to students who have successfully completed the Level III Modulated Course. This course is certified by the Commission on Peace Officer Standards and Training.

AJ 80	Level III Modulated Basic Course	6.5
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**PC 832 FIREARMS ONLY CERTIFICATE**

Units Required: 0.5

AJ 30	Firearms Training	0.5
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**LAW ENFORCEMENT MODULAR COURSE LEVEL II CERTIFICATE**

Units Required: 15.5

This certificate will be awarded to students who have successfully completed the Level II Modulated Course. This course is certified by the Commission on Peace Officer Standards and Training.

AJ 80	Level III Modulated Basic Course	6.5
AJ 81	Level II Modulated Basic Course	9.0

**PC 832 LAW ENFORCEMENT COURSE CERTIFICATE**

Units Required: 3.0

Prepares the student to meet the minimum requirements as a non-designated Level III Reserve Peace Officer, or, as a designated limited-duty peace officer. This

certificate program complies with the Commission on Peace Officer Standards and Training.

AJ 58	PC 832 Law Enforcement Course	3.0
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**SCHOOL POLICE COURSE: PC 832.3 CERTIFICATE**

Units Required: 2.0

AJ 8	PC 832.3 Campus Law Enforcement	2.0
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**POLICE TECHNICIAN SPECIALIST CERTIFICATE**

Units Required: 15.5

Prepares the student for a variety of employment opportunities with any Law Enforcement Agency, in a civilian capacity, as a Forensic Specialist or as an Evidence Technician.

AJ 103	Criminal Law	3.0
AJ 126	Traffic Enforcement and Investigation	3.0
AJ 133	Writing for Criminal Justice	3.0
AJ 140	Communication Skills for Interviewing and Interrogation	3.0
AJ 67	Crime Scene Investigation	3.5

**Associate Degree**

To earn an Associate in Science degree with a major in Administration of Justice, complete a minimum of 18 units from any of the certificate requirements above or from any Administration of Justice courses and meet all Victor Valley College graduation requirements. AJ 138 (Cooperative Education) may be used as elective credit but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**  
*Criminal Justice major*

Complete the following courses prior to transfer if possible: AJ 101, 103, MATH 105 or 132.

**Local Bachelors Programs**

For information on the following programs located in the High Desert, please visit [www.vvc.edu/offices/guidance\\_and\\_counseling/](http://www.vvc.edu/offices/guidance_and_counseling/) and select "Counseling Information Sheets":

■ **Brandman University, Victor Valley Campus**  
*Criminal Justice major*

■ **University of La Verne, High Desert Campus**  
*Criminal Justice major (online)*

## ADMINISTRATION OF JUSTICE COURSES

### AJ 8.0 PC 832.3 CAMPUS LAW ENFORCEMENT

Units: 2.0 - 32-36 hours lecture. This course will not apply to the Associate Degree. (No Prerequisite. Pass/No Pass)

This course complies with the state requirements for K-12 and Community College peace officer training per Penal Code 832.3g, certified by the State Commission on Peace Officer Standards and Training. This course includes the role and responsibilities of campus police, search and seizure, student discipline and records, crimes against persons and property, mandatory reporting of child abuse, and disaster preparedness.

### AJ 25 PUBLIC SAFETY DISPATCHER

Units: 5.5 - 80-90 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No Prerequisite. Pass/No Pass)

This course complies with the Commission on Peace Officer Standards and Training (POST) requirements for Public Safety Dispatchers. This course includes the criminal justice system, criminal law, communication technology, telephone and radio procedures, missing persons, domestic violence, cultural diversity, sexual harassment, gang awareness, emergency medical services and stress management.

### AJ 30 PC 832 FIREARMS

Units: 0.5 - This course will not apply to the Associate Degree. 24-27 hours laboratory. (Prerequisite. All students must have a DOJ criminal record clearance, in writing, from DOJ before registering for this class. Pass/No Pass)

This course satisfies the Commission on Peace Officer Standards and Training (POST) firearms certification for the Level III reserve and PC 832. Additionally, this course exceeds the State of California firearms safe handling and use certification required from any person purchasing a firearm in California.

### AJ 31 FINGERPRINT RECOGNITION AND CLASSIFICATION

Units: 2.5 - This course will not apply to the Associate Degree. 40-45 hours lecture. (No prerequisite. Pass/No Pass)

This course offers instruction in fingerprint recognition and classification to a person without any prior knowledge in fingerprint patterns. Every person who is successful in this course will be able to recognize and

accurately classify a fingerprint and distinguish a known fingerprint from an unknown fingerprint.

### AJ 58 PC 832 LAWS OF ARREST

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Pass/No Pass)

This course complies with the requirements of the Commission on Peace Officers Standards and Training for certification in PC 832. This course includes professionalism, law, evidence, investigation, arrest methods and control, community relations, and communication skills for interviewing and interrogation.

### AJ 64 BASIC CORRECTIONS OFFICER ACADEMY

Units: 8.0 - 112-126 hours lecture and 48-54 hours laboratory. (No prerequisite; Pass/No Pass)

This course satisfactorily meets the requirements of section 1020 of the California Administrative Code, Minimum Jail Standards and the Basic Jail/Adult Institution requirements of the STC program.

### AJ 67 CRIME SCENE INVESTIGATION

Units: 3.5 - 48-54 hours lecture and 24 hours laboratory. (No prerequisite)

This course concentrates on the technical aspects of evidence collection, crime scene reconstruction, crime scene photography, evidence packaging, and court room testimony. The student is prepared to distinguish between trace, stain, and impression evidence and the role of these types of evidence in criminal investigations.

### AJ 73 LEGAL ASPECTS OF CORRECTIONS

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course provides students with an awareness of the historical framework, concepts and precedents that guide correctional environment, the civil rights of prisoners and responsibilities and liabilities of correction officials. Emphasis will be placed on federal case law and its application to correctional work.

### AJ 80 LEVEL III MODULATED LAW ENFORCEMENT BASIC COURSE

Units: 6.5 - 86 hours lecture and 85 hours laboratory. (No Prerequisite. Pass/No Pass)

This course complies with the Commission on Peace Officers Standards and Training (POST) requirements for the Level III. Modulated Basic Course. This course includes professionalism and ethics; criminal law; laws of arrest and search and seizure; report writing, vehicle operations; use of force and force options; chemical agents; and firearms training.

**AJ 81 LEVEL II MODULATED LAW ENFORCEMENT BASIC COURSE**

Units: 9.0 - 121 hours lecture and 133 hours laboratory. (Prerequisites: AJ 80 and Department of Justice criminal record clearance. Pass/No Pass.)

This course complies with the Commission on Peace Officers Standards and Training (POST) requirements for the Level II Modulated Basic Course. This course includes community relations; victimology; crimes against property and persons; crimes against children; specific sex crimes; search and seizure law; investigative report writing; crimes in progress and patrol tactics; use of force; defensive tactics; and firearms training.

**AJ 91 CORRECTIONS SUPERVISION AND CONTROL**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

Students will learn to supervise and control inmates in the emotionally charged atmosphere of adult corrections. They will learn to detect and mitigate problems using motivational and communications techniques. They will learn to set and enforce standards. These skills are invaluable in a corrections environment.

**AJ 101 INTRODUCTION TO THE ADMINISTRATION OF JUSTICE**

Units: 3.0 - 48-54 hours lecture. CSU, UC (No prerequisite)

This course provides an overview of the history and philosophy of the criminal justice system as it evolved. The course provides an in-depth study of the American system and the various sub-systems; roles and role expectations of criminal justice agents in their inter-relationships in society; concepts of crime causation, punishment and rehabilitation; ethics, education and training for professionalism in the criminal justice system.

**AJ 102 CRIMINAL PROCEDURES**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Legal processes from pre-arrest through trial, sentencing and correctional procedures. A review of the history of case and common law; conceptual interpretations of law as reflected in court decisions. A study of case law methodology and case research as the decisions impact upon the procedures of the justice system.

**AJ 103 CRIMINAL LAW**

Units: 3.0 - 48-54 hours lecture. CSU, UC (No prerequisite)

Historical development, philosophy of law and constitutional provisions; definitions, classifications of crime and their applications to the system; legal research, review of case law, and concepts of law as a social force. Explores crimes against persons, property and the state as a social, religious, and historical ideology.

**AJ 104 LEGAL ASPECTS OF EVIDENCE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Origin, development, philosophy, and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search, and seizure; kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights and case studies viewed from a conceptual level.

**AJ 126 TRAFFIC ENFORCEMENT AND INVESTIGATION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

A study of the fundamentals of accident investigation and reconstruction employing the principles of crime scene initial survey, evidence collection, skid mark analysis, and interviewing techniques. Includes the study and comprehension of the California Vehicle Code.

**AJ 127 CRIME AND DELINQUENCY**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

An introduction to major types of criminal behavior, characteristics of offenders, factors which contribute to crime and delinquency; the criminal justice process; the function of law enforcement, the courts, probation, parole and institutions; changes in crime control and treatment processes, the role of society.

**AJ 130 DEATH INVESTIGATION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

A course designed to prepare the law enforcement officer with the appropriate knowledge and techniques for handling homicide investigations.

**AJ 132 INTRODUCTION TO CORRECTIONS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

A survey of the field of correctional science. Historical development, current concepts and practice; explanations of criminal behavior; functions and objectives of the criminal justice system concerned with institutional, probation, and parole processes as they modify the offender's behavior; survey of professional career opportunities in public and private institutions.

**AJ 133 WRITING FOR CRIMINAL JUSTICE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Techniques of communicating facts, information, and ideas effectively in a simple, clear and logical manner in the various types of criminal justice system reports: letters, memorandums, directives, and administrative reports with an emphasis on criminal justice terminology in note taking and report writing.

**AJ 135 JUVENILE LAW AND PROCEDURES**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

An overview and history of the Juvenile Justice System that evolved in the American Justice System. This course examines the sociological theories of delinquency, constitutional rights of juveniles, investigative procedures regarding juveniles, and the judicial proceedings of juveniles from intake to custodial resolutions.

**AJ 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**AJ 140 COMMUNICATION SKILLS FOR INTERVIEWING AND INTERROGATION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

The course will focus on the technical and legal aspects of interview and interrogation within the Administration of Justice system. It will provide the student with the communication skills required to elicit reliable and admissible information from witnesses and suspects. Constitutional and Legislative law will be emphasized.

**AJ 145 INTRODUCTION TO CRIMINAL INVESTIGATIONS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

The course explores the processes involved in investigation crimes against persons; crimes against property; sex crimes; cyber-crime; controlled substances and organized crime; bomb and illegal explosive crimes; and crimes against children. The course will examine various communication methods when interviewing victims or interrogating suspects and examine the Constitutional restrictions when conducting searches or seizures for evidence.

**AJ 148 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU

**AJ 149 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

**AJ 150 INTRODUCTION TO FORENSIC SCIENCE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite.)

This course introduces the role of forensics in the criminal justice system. The course includes: crime scene processes and analysis; interpretation of patterns for reconstruction; physical pattern evidence; fingerprint identification and patterns; questioned document examination; tool marks and firearms examination; biological evidence and DNA; arson and explosives evidence, and drug analysis.

**AJ 201 MULTICULTURAL ISSUES IN PUBLIC SAFETY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

A theoretical and conceptual overview of multicultural concepts and issues: an application of those concepts and issues to the four public safety disciplines (corrections, fire safety, hazardous materials, law enforcement); identification of problems related to our increasingly diverse population; examination of strategies to overcome those problems, particularly in relation to the maintenance of social order.

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**AGRICULTURE AND NATURAL RESOURCES**

California and the United States are rapidly reaching a crisis situation in the management and preservation of natural resources. The recent crisis with energy in California bears witness to this fact. The most important issues concern the critical resources of food, energy, water, air, wildland and wildlife. It is essential that our society be taught a greater awareness of the need to conserve and wisely manage these resources. Careers and the public and private entities that manage and use these resources are expanding rapidly as the critical nature of these issues become more apparent. Individuals that are trained in agricultural and natural resource principles and issues are perfectly positioned to take advantage of these exciting opportunities.

The Agriculture and Natural Resource Department is intent on providing students with the training and resources needed to compete in this rapidly expanding green career field and the skills needed to continue their studies in this arena. The department has designed its educational programs on the following premises:

1. A focus on the underlying scientific principles and math skills that support the disciplines of agriculture and natural resource management.
2. Application of advanced technologies that include the management of data with sophisticated computer software, Geographic Information Systems (GIS), Global Positioning Systems (GPS) and Remote Imaging Technology.

3. A focus on “Sustainable Development,” that balances the need to preserve natural ecological relationships with the social and economic needs of the humans that use a particular ecosystem or region.

4. Provide increased “hands-on” learning and field experiences. The skills needed to be successful in these areas are best taught through actual experience via laboratories, investigative field experiences, internships, field trips and simulated case studies.

The department currently focuses on training students in fields of Environmental Horticulture, Habitat Restoration, Landscape Irrigation, Floral Design, Natural Resource Management, Geographic Information Science, Water Resource Management, Equine and Animal Science, and Animal Health.

**Career Opportunities**

- Agriculture and Conservation Extension Officer
- Agricultural and Food Inspectors
- Agriculture and Natural Resource Educators
- Arborists and Tree Pruning Technicians
- Cartographic Technicians
- Environmental and Natural Resource Planner
- Farm, Ranch Hands and Managers
- Field Biologists
- Floral Design Technicians and Floral Shop Managers
- GIS Analysts
- Horticulture, Irrigation and Fertilizer Industry Sales Representatives
- Irrigation Specialists
- Landscape Architects and Designers
- Landscape Construction/Installation Contractors
- Landscape Maintenance Technicians
- Natural Resource Research Technicians
- Nursery Technicians and Managers
- Park and Wildlife Managers
- Plant Breeders, Propagators and Growers
- Turf Grass Managers
- Water, Soils and Biotechnology Lab Technicians
- Water Use, Education and Conservation Technicians
- Zoo, City, Country Club and Botanic Garden Horticulturists

**Faculty**

**Full-time**

Neville Slade

**Degrees and Certificates Awarded**

- Associate in Science, Horticulture
- Animal Science Technician Certificate
- Ecological Restoration Technician Certificate
- Environmental Field Studies Technician
- Equine Science Specialist Certificate
- Floral Design Certificate
- Geospatial Technician Certificate
- Horticulture and Landscape Technician Certificate
- Horticulture Specialist Certificate
- Landscape Specialist Certificate
- Landscape Irrigation Certificate
- Mojave Desert Master Gardner Certificate

Natural Resource Management Technician Certificate

**Certificate Programs**

**ANIMAL SCIENCE TECHNICIAN CERTIFICATE**

Units Required: 11.0 or 12.0

*Group I - All of the following must be completed:*

AGNR 55	Animal Management Lab	2.0
AGNR 100	General Animal Science	3.0
AGNR 101	Animal Nutrition	3.0

*Group II - One of the following must be completed:*

AGNR 50	Equine Health	3.0
BIOL 100	General Biology	4.0
AGNR 102	Equine Science	4.0

**ECOLOGICAL RESTORATION TECHNICIAN CERTIFICATE**

Units Required: 15.0, 16.0, OR 17.0

*Group I - All of the following must be completed: 13 units*

AGNR 170	Environmental Science	4.0
AGNR 171	Introduction to GIS	3.0
AGNR 123	Introduction to Plant Science	3.0
AGNR 74B	Biodiversity Management and Conservation Technology	1.0
AGNR 74C	Water and Soils Resources and Management	1.0
AGNR 74D	Ecological Restoration	1.0

*Group II - One of the following must be completed: 2, 3, 4 units*

AGNR 60	Environmental Horticulture Lab	2.0, 3.0, or 4.0
AGNR 72	Geospatial Technology I	4.0
AGNR 73	Water Science	3.0
AGNR 75	Conservation Research Lab	2.0, 3.0, or 4.0
AGNR 120	Pest Management in Environmental Horticulture	3.0
AGNR 121	Fundamentals of Environmental Horticulture	3.0
AGNR 122	Plant Propagation & Production	3.0
AGNR 129	Water Efficient Landscaping	3.0
AGNR 131	Soil Science	3.0
AGNR 140	Plant Materials Usage I	3.0
AGNR 141	Plant Materials Usage II	3.0
AGNR 148	Special Topics	2.0
AGNR 151	Landscape Construction	3.0
AGNR 152	Landscape Irrigation	3.0
BIOL 71	Introduction to Lab Tech	3.0
BIOL 104	General Botany	4.0
BIOL 127	ID/Study of Amphibians/Reptiles of Mojave Desert	3.0

BIOL 128	ID/Study of Amphibians/Reptiles of Mojave Desert	3.0
BIOL 129	ID/Study of Mammals of Mojave Desert	3.0
CHEM 114	Environmental Chemistry	3.0
GEOG 103	Geography of California	3.0
GEOL 103	Geology of California	3.0
FIRE 65	Basic Wildland Fire Control	2.0

**ENVIRONMENTAL FIELD STUDIES CERTIFICATE**

Units Required: 10.0

The purpose of this certificate is to teach the state-of-the-art technologies and science of natural resource management. Engage students with their environment through community conservation projects, field studies and applied environmental research. Highlight the diversity and depth of career opportunities and advanced study. Promote linkage with local businesses, government agencies and community groups via partnerships, joint projects, internships, guest speakers and workshops.

*All of the following must be completed:*

AGNR 74	Conservation and Sustainability Practices	6.0
AGNR 170	Environmental Science	4.0

**EQUINE SCIENCE SPECIALIST CERTIFICATE**

Units Required: 7.0

Introduces students to the diverse and exciting horse industry in California. Provides the scientific basis to continue studies in this field.

*Both of the following must be completed:*

AGNR 100	General Animal Science	3.0
AGNR 102	Equine Science	4.0

**FLORAL DESIGN CERTIFICATE**

Units Required: 14.0

The core of the specialized courses in the Floral Design Certificate have been selected to prepare the student for employment in a commercial flower shop as a designer or assistant to the manager. These classes are taught by professionals in the industry and opportunities for success as a florist are unlimited. Whether for fun or profit, floral design is rapidly becoming a growing industry. Anyone desiring a career as a florist can be assured of advancement by acquiring this state-of-the-art certificate.

*Group I - All of the following must be completed:*

AGNR 121	Fundamentals of Environmental Horticulture	3.0
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AGNR 160	Beginning Floral Design	3.0
AGNR 161	Floral Design II	2.0
AGNR 140	Plant Materials & Usage I	3.0

*Group II - One of the following must be completed:*

AGNR 122	Plant Propagation and Production	3.0
AGNR 153	Landscape Maintenance	3.0
AGNR 152	Landscape Irrigation	3.0
AGNR 150	Landscape Design	3.0
AGNR 154	Landscape and Nursery Management	3.0
AGNR 129	Water Efficient Landscaping	3.0
AGNR 170	Environmental Science	4.0
AGNR 141	Plant Materials and Usage II	3.0
AGNR 60	Environmental Horticulture Lab	3.0
CMST 109	Public Speaking	3.0
BIOL 104	Botany	4.0
BIOL 71	Introduction to Lab Technique	4.0
CT 107	Technical Mathematics	3.0
CT 131	Microcomputers in Construction	4.0
AGNR 138	Cooperative Education	3.0

**GEOSPATIAL TECHNICIAN CERTIFICATE**

Units Required: 13.0, 14.0, or 15.0

Geospatial Information Systems Science is one of the fastest growing industries in the world today. While the rest of the technology sector has been working to recover from economic hardships, the GIS industry has grown to a \$30 billion per year enterprise and whose influence and utility is creating a symbiotic relationship and integration throughout industry, business, and government. This certificate is designed to introduce the students to various scientific theoretical aspects associated with this field and prepare them to enter this exciting field as a technician. There is also a "hands on" component where the students are introduced to the highly sophisticated software packages through real-world conservation projects with local agencies and businesses.

*Group I - All of the following must be completed:*

AGNR 72	Geospatial Technology I	4.0
AGNR 170	Environmental Science	4.0
AGNR 171	Introduction to Geographic Information Science	3.0

*Group II - One of the following must be completed:*

AGNR 60	Environmental Horticulture Lab	3.0
AGNR 73	Water Science	3.0
AGNR 75	Conservation Research Lab	3.0
AGNR 120	Pest Management in Environmental Horticulture	3.0
AGNR 121	Fundamentals of Environmental Horticulture	3.0
AGNR 122	Plant Propagation	3.0
AGNR 131	Soil Science	3.0
AGNR 141	Plant Materials and Usage II	3.0
AGNR 148	Special Topics	2.0



ANTH 6	Introduction to GIS for the Social Sciences	3.0
CIS 96A	Structured Query Language A Using MySQL	2.0
CIS 280	Fundamentals of Database Management Systems	3.0
GEOG 101	Physical Geography	3.0
GEOL 103	California Geology	3.0

**LANDSCAPE SPECIALIST CERTIFICATE**

Units Required: 20.0 minimum

The Landscape Specialist Certificate prepares the student to design, install and maintain landscapes. Focuses on the special challenges of drought tolerant and cold hard landscapes.

*Group I - All of the following must be completed:*

AGNR 121	Fundamentals of Environmental Horticulture	3.0
AGNR 152	Landscape Irrigation	3.0
AGNR 150	Landscape Design	3.0
AGNR 154	Landscape and Nursery Management	3.0
AGNR 140	Plant Materials and Usage I	3.0

*Group II - Two of the following must be completed:*

AGNR 151	Landscape Construction	3.0
AGNR 120	Pest Management in Environmental Horticulture	3.0
AGNR 153	Landscape Maintenance Fundamentals	2.0
AGNR 129	Water Efficient Landscaping	3.0
AGNR 141	Plant Materials Usage II	3.0
AGNR 122	Plant Propagation & Production	3.0
AGNR 171	Introduction to Geographic Information Science	3.0
AGNR 170	Environmental Science	4.0
AGNR 131	Soil Science	3.0
AGNR 60	Horticulture Lab	4.0
CMST 109	Public Speaking	3.0
BIOL 104	General Botany	4.0
CT 107	Technical Math	3.0
CT 131	Microcomputers in Construction	4.0
AGNR 138	Cooperative Education	2.0 or 3.0

**LANDSCAPE IRRIGATION CERTIFICATE**

Units Required: 11.0

The Landscape Irrigation Certificate prepares the student to design, install and maintain irrigation systems.

*Group I - All of the following must be completed:*

AGNR 152	Landscape Irrigation	3.0
AGNR 140	Plant Materials and Usage I	3.0

AGNR 129	Water Efficient Landscaping	3.0
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*Group II - One of the following must be completed:*

AGNR 120	Pest Management in Environmental Horticulture	3.0
AGNR 151	Landscape Construction	3.0
AGNR 121	Fundamentals of Environmental Horticulture	3.0
AGNR 122	Plant Propagation & Production	3.0
AGNR 150	Landscape Design	3.0
AGNR 153	Landscape Maintenance Fundamentals	2.0
AGNR 170	Environmental Science	4.0
AGNR 171	Introduction to Geographic Information Science	3.0
AGNR 131	Soil Science	3.0
AGNR 141	Plant Materials Usage II	3.0
AGNR 60	Horticulture Lab	2.0, 3.0 or 4.0
AGNR 73	Water Science	3.0

**HORTICULTURE SPECIALIST CERTIFICATE**

Units Required: 23.0

The Horticulture Specialist Certificate prepares the student with the basics of establishing and/or managing a horticulture business and a wholesale or retail nursery. This certificate serves as a good crossover for students wishing to enter a natural resource management career.

*Group I - All of the following must be completed:*

AGNR 120	Pest Management in Environmental Horticulture	3.0
AGNR 121	Fundamentals of Environmental Horticulture	3.0
AGNR 122	Plant Propagation & Production	3.0
AGNR 140	Plant Materials and Usage I	3.0
AGNR 131	Soil Science	3.0
AGNR 141	Plant Materials Usage II	3.0

*Group II - Two of the following must be completed:*

AGNR 151	Landscape Construction	3.0
AGNR 160	Basic Floral Design	3.0
AGNR 152	Landscape Irrigation	3.0
AGNR 153	Landscape Maintenance Fundamentals	2.0
AGNR 150	Landscape Design	3.0
AGNR 154	Landscape and Nursery Management	3.0
AGNR 129	Water Efficient Landscaping	3.0
AGNR 170	Environmental Science	4.0
AGNR 171	Introduction to GIS	3.0
AGNR 60	Horticulture Lab	2.0 or 3.0 or 4.0
CMST 109	Public Speaking	3.0
BIOL 71	Introduction to Lab Tech	3.0
BIOL 104	General Botany	4.0
CT 107	Technical Math	3.0
CT 140	Microcomputers in Construction	4.0

AGNR 138 Cooperative Education 2.0 or 3.0

**HORTICULTURE AND LANDSCAPE TECHNICIAN CERTIFICATE**

Units Required: 11.0

The Horticulture and Landscape Technician Certificate prepares the student for entry level positions within the nursery and landscaping industries.

*Group I - All of the following must be completed:*

AGNR 121 Fundamentals of Environmental Horticulture 3.0  
 AGNR 122 Plant Propagation & Production 3.0  
 AGNR 140 Plant Materials and Usage I 3.0

*Group II - One of the following must be completed:*

AGNR 151 Landscape Construction 3.0  
 AGNR 120 Pest Management in Environmental Horticulture 3.0  
 AGNR 122 Plant Propagation & Production 3.0  
 AGNR 160 Basic Floral Design 3.0  
 AGNR 152 Landscape Irrigation 3.0  
 AGNR 150 Landscape Design 3.0  
 AGNR 154 Landscape and Nursery Management 3.0  
 AGNR 129 Water Efficient Landscaping 3.0  
 AGNR 141 Plant Materials Usage II 3.0

**MOJAVE DESERT MASTER GARDENER CERTIFICATE**

Units Required: 2.0

AGNR 80 Master Gardner 2.0

**NATURAL RESOURCE MANAGEMENT CERTIFICATE**

Units Required: 15.0, 16.0, or 17.0

*Group I - All of the following must be completed:*

AGNR 123 Introduce to Plant Science 3.0  
 AGNR 131 Soil Science 3.0  
 AGNR 170 Environmental Science 4.0

AGNR 171 Introduction to Geographic Information Science 3.0

*Group II - One of the following must be completed: 2, 3, 4 units*

AGNR 60 Environmental Horticulture Lab 2.0, 3.0, or 4.0  
 AGNR 72 Geospatial Technology I 4.0  
 AGNR 73 Water Science 3.0  
 AGNR 75 Conservation Research Lab 2.0, 3.0, or 4.0

AGNR 120 Pest Management in Environmental Horticulture 3.0  
 AGNR 121 Fundamentals of Environmental Horticulture 3.0  
 AGNR 122 Plant Propagation & Production 3.0  
 AGNR 129 Water Efficient Landscaping 3.0  
 AGNR 140 Plant Materials Usage I 3.0  
 AGNR 141 Plant Materials Usage II 3.0  
 AGNR 148 Special Topics 2.0  
 AGNR 151 Landscape Construction 3.0  
 AGNR 152 Landscape Irrigation 3.0  
 BIOL 71 Introduction to Lab Tech 3.0  
 BIOL 104 General Botany 4.0  
 BIOL 127 ID/Study of Amphibians/Reptiles of Mojave Desert 3.0  
 BIOL 129 ID/Study of Mammals of Mojave Desert 3.0  
 CHEM 114 Environmental Chemistry 3.0  
 GEOG 103 Geography of California 3.0  
 GEOL 103 California Geology 3.0  
 FIRE 65 Basic Wildland Fire Control 2.0

**Associate Degree**

To earn an Associate in Science degree with a major in Horticulture, complete 18 units from any landscape certificates or horticulture coursework, and meet all Victor Valley College graduation requirements. AGNR 138 (Cooperative Education) may be used as elective credit, but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **University of California, Riverside**  
*Botany and Plant Sciences major*
- **University of California, Davis**  
*Plant Science*  
*Animal Science*
- **California State University**  
 CSU campuses that offer Environmental Horticulture and Animal Science majors or concentrations include: CSU-Chico, Fresno, Pomona, and Stanislaus.

**AGRICULTURE AND NATURAL RESOURCES COURSES**

**AGNR 50 EQUINE HEALTH**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade Option)

Students learn the basics of proper veterinary care of the horse, including what to do before the veterinarian is called. Course introduces the diseases and lameness associated with the musculoskeletal system, as well as diseases of the respiratory, digestive, neurological, and reproductive systems. Emphasis is on preventive maintenance and managerial practices needed to keep the equine athlete, broodmare or family horse in good health in the High Desert Region of California.

**AGNR 50A INTRODUCTION TO EQUINE HEALTH AND DISEASE PREVENTION: WHEN TO CALL THE VET**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Introduction to the anatomy and physiology of the horse and the impact of these sometimes fragile systems can impact overall equine health. Students learn to identify the indicators of good health using a first-aid check list and warning signs of disease.

**AGNR 50B EQUINE DISEASES, TOXICOLOGY AND PARASITES**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Course emphasizes the early detection and prevention of these agents. Focus on West Nile Virus, Strangles, Rhinopneumonitis and other diseases prevalent in the High Desert. Students develop region-specific vaccination and worming regimens.

**AGNR 50C COLIC AND PROPER FEEDING PRACTICES**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Students learn the common environmental factors that may cause digestive health problems like colic and diarrhea. Emphasis is placed on a balanced diet and proper feeding practices.

**AGNR 50D EQUINE LAMENESS; LAMINITIS, NAVICULAR AND BEYOND**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Students assess the pathogenesis of navicular Disease and Laminitis; describe common methods of treatment; evaluate the impact of these and other lameness on the athletic potential of the equine athlete. Techniques for diagnosis (radiography, ultrasound) and treatment (chiropractic, drugs) are explored.

**AGNR 50E EQUINE REPRODUCTIVE HEALTH**

Unit: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

The unusual reproductive conformation of the mare and the stallion and breeding practices has produced an inordinately low level of reproductive efficiency in modern horse breeds. Course presents the appropriate use of recent management and technology innovations: progesterone therapy, increased day-length, ultrasonic imaging, artificial insemination, cooled semen and embryo transfer.

**AGNR 50F EQUINE FOALING AND NEONATAL CARE**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

The successful foaling of a mare is fraught with problems from dystocia to assuring that the foal gets sufficient colostrum. Students develop a foaling checklist and guidelines on when to call for Veterinary assistance.

**AGNR 51 VETERINARY TERMINOLOGY AND TECHNOLOGY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

An introduction to the terminology for drugs, disease and dissection in dogs, cats, horses, ruminants, swine and birds. Students identify the parts of a medical term and practice their pronunciation. Basic terminology and function of the skeletal, muscular, digestive, urinary, cardiovascular, respiratory, endocrine, reproductive and nervous systems. Overview of the available technology for animal testing and diagnostic evaluation.

**AGNR 55 ANIMAL MANAGEMENT LAB**

Units: 1.0-3.0 - 48-54 hours laboratory per unit. (No prerequisite. Grade Option)

This course provides hands-on exposure to the management of large farm animals (livestock) and the experience needed to implement the theory learned in this department's animal and equine science classes. Special emphasis is placed on handling, preventative veterinary care, feeding, facility design, selection, evaluation, judging and preparation for sale. Provides a detailed analysis of various visual and physical methods of appraising beef, sheep, swine and horses for functional and economic value.

**AGNR 60 ENVIRONMENTAL HORTICULTURE LABORATORY**

Units: 1.0-4.0 - 48-54 hours laboratory per unit, per term. (No prerequisite) This course may be taken four times.

Horticulture laboratory setting for horticulture students to practice the skills gained from experience and traditional lecture/laboratory classes. This setting will further prepare students for employment in the horticulture industry.

**AGNR 61 NATURAL LANDSCAPE PRACTICES**

Units: 4.0 - 64-72 hours lecture. (No prerequisite. Grade Option)

Introduction to the basics of landscape design; plant material selection; planting and care; composting; irrigation design and maintenance organic and natural methods; soil factors; landscape redesign and renovation; integrated pest management; creating a custom landscape. Emphasis is on the use of water-conserving and resource-efficient practices in establishing functional, attractive landscapes.

**AGNR 61A BASICS OF WATER-EFFICIENT LANDSCAPE DESIGN**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Introduction to the seven xeriscape principles (landscape planning and design, soil considerations, practical turf areas, plant material selection, irrigation design, use of mulches, and landscape maintenance). Additional emphasis on drip and water-conserving irrigation, with an overview of local and regional water resources issues. Students will learn the basic elements of landscape design and be introduced to the dynamics of water resource management.

**AGNR 61B TREES FOR THE SUBURBAN FOREST: SELECTION, PLANTING, AND CARE**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Students will learn the elements required for the selection, planting, and care of fruit, shade, ornamental, and windbreak trees that are adapted to local climatic conditions and that meet particular landscaping objectives. Emphasis will be on choosing the right type of tree for the location, optimizing site selection, soil preparation and planting, efficient irrigation practices, establishing a home orchard, and tree health, maintenance and pruning.

**AGNR 61C RECYCLING THE NATURAL WAY: ESSENTIALS OF COMPOSTING**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Learn how to make productive use of unwanted yard waste and other materials through the Master Composter Program. Topics include: benefits of composting; the biological process of composting;

materials that can and cannot be composted; types of composting units and how to establish and manage them; vermiculture; using the finished product as a soil conditioner or mulch, using other solid waste such as straw and concrete in the landscape.

**AGNR 61D DESIGNING DRIP IRRIGATION AND OTHER WATER EFFICIENT SYSTEMS**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Students will learn to design, install, and maintain drip and other water-efficient landscape irrigation systems. Topics include: system layout; description of available irrigation hardware components and their use; converting existing systems to be water-efficient; adapting an existing system to a redesigned landscape; effective use of timers and controllers based on seasonal water requirements; troubleshooting and repair.

**AGNR 61E ORGANIC METHODS FOR GARDENING AND LANDSCAPING**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Introduction to the use of organic methods in cultivating vegetables, herbs, flowers, shrubs, and trees. Students will learn to evaluate basic soil characteristics and assess the need for soil amendments and fertilizers. Other topics include: assessing plant health; organic and natural soil amendments and fertilizers; selecting and sourcing native and climate-adapted plant materials; plant pests and natural methods for controlling them.

**AGNR 61F OUTDOOR REMODELING: APPROACHES TO LANDSCAPE CONVERSION**

Units: 0.5 -8-9 hours lecture. (No prerequisite. Grade Option)

Learn to remodel a landscape to make it more resource efficient and attractive. Emphasis will be on redesigning and planning, water-saving approaches for lawn areas, low-maintenance alternatives to lawn areas, utilization of existing landscape elements, salvaging trees and shrubs by pruning and retraining and introduction of new landscape elements that are readily established.

**AGNR 61G INTEGRATED PEST MANAGEMENT FOR THE LANDSCAPE AND HOME**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Managing pests with an integrated approach using knowledge of their habits and life histories to determine the best method or combination of methods for controlling them. Students will learn about the biology of

pest organisms (weeds, insects, plant diseases, rodents, and other pests), preventing the establishment of pests before they become a problem, evaluating the effects of pests on plant health, and methods of pest control, with emphasis on low-impact practices and safe handling of chemical treatment.

**AGNR 61H NATURAL LANDSCAPES:  
CREATING A CUSTOM HABITAT**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option)

Design a landscape that incorporates natural practices to create a custom habitat. Includes Habitat Gardening: plants that attract desirable wildlife such as birds and butterflies; edible landscapes; incorporating vegetables, herbs, and fruit trees; planting for seasonal color; allergy-free landscaping; creating outdoor living spaces; integrating hardscape elements such as decks, gazebos, and rockscapes into the design.

**AGNR 72 GEOSPATIAL TECHNOLOGY I**

Units: 4.0 - 64-72 hours lecture. (No prerequisite)

This course examines the theory behind geographic information systems (GIS) and global positioning systems (GPS) and their application to spatial data. An interdisciplinary approach to GIS and its capability for analysis and decision-making in diverse industries. Students will use ArcGIS9 software and GPS software on real-world projects that find solutions to local problems using spatial data.

**AGNR 73 WATER RESOURCE MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade Option)

This class is a complete overview of water resource management in the West Mojave Desert and makes appropriate linkages to the critical nature of water management around the world. Local water management leaders present guest lectures on the economic, political, social, and environmental pressures that must be balanced in providing sustainable water supplies. The scientific principles are presented that must underlie sound water management decisions. Cutting-edge technologies like Geospatial Analysis are used to present the study of groundwater, local watershed health, soil erosion, water quality and water distribution issues.

**AGNR 74 CONSERVATION AND SUSTAINABILITY PRACTICES**

Units: 6.0 - 96-108 hours lecture. (No prerequisite. Grade Option)

This course introduces students to the exciting and rapidly expanding practice of the conservation and

sustainable use of our natural resources. Students use case studies and high-tech tools to learn how we can live comfortably while ensuring that we sustain the environment for future generations. Students explore the social, economic, environmental, technological, scientific, conservation practices and career fields that support this new frontier in societal development.

**AGNR 74A SUSTAINABLE COMMUNITY DEVELOPMENT**

Units: 1.0 - 16-18 hours lecture. (No prerequisite. Grade Option) Maybe taken three times.

Students learn to plan and implement sustainable development practices; development that meets the needs of the present generation without compromising the ability of future generations to meeting their own needs. It is also often described as development that considers multiple, sometimes competing values grouped into three general categories; environmental, social and economic. Extensive use is made of case studies and practical on-site experiences. Class may be taught in the Mojave Desert, Costa Rica, Namibia, New Zealand, etc.

**AGNR 74B BIODIVERSITY MANAGEMENT AND CONSERVATION TECHNOLOGY**

Units: 1.0 - 16-18 hours lecture. (No prerequisite. Grade Option) May be taken three times.

The reduction of species diversity is a major indicator of the health of a complete ecosystem. This class explores the science, tools and practice of conserving species diversity. Students learn to implement the exciting tools of Geographic Information Systems (GIS), Global Positioning Systems (GPS), Satellite Imaging and Database Management, along with an understanding of the unlimited career opportunities in these fields. An example case study is on the viability of the Lucerne Valley Big Horn Sheep population. Class may be taught in Mojave Desert, Costa Rica, Namibia, New Zealand, etc.

**AGNR 74C WATER AND SOIL CONSERVATION**

Units: 1.0 - 16-18 hours lecture. (No prerequisite. Grade Option) Maybe taken three times.

Students discover the tenuous nature of many of the world's water supplies. Tools like GIS are used to study watershed health. The fantastic chemistry of water and methods of water quality testing are presented. Students study the relationships between soil and water, soil mapping, soil analysis and soil erosion using real-world examples. Class may be taught in the Mojave Desert, Costa Rica, Namibia, New Zealand, etc.

**AGNR 74D ECOLOGICAL RESTORATION**

Units: 1.0 - 16-18 hours lecture. (No prerequisite. Grade Option) Maybe taken three times.

Students learn to design an ecological restoration plan that effectively balances environmental mitigation with local community social and economic needs. The methodologies appropriate to a particular situation are presented. Topics include: native seed banking, Mycorrhizal relationships, seed stratification and scarification, nutrient requirements, water requirements, transplanting protocols, watershed restoration, soil evaluation and rehabilitation. Class may be taught in the Mojave Desert, Costa Rica, Namibia, New Zealand, etc.

**AGNR 74E SUSTAINABLE AGRICULTURE PRACTICES**

Units: 1.0 - 16-18 hours lecture. (No prerequisite. Grade Option) Maybe taken three times.

Tremendous progress has been made towards farming with nature and restoring ranches to be part of the natural ecosystem. This "farming with the wild" is not only producing more food but enhancing the environment. Students study sustainable practices like rotational grazing, organic farming, hedgerows and natural pollination in the United States and overseas. Class may be taught in the Mojave Desert, Costa Rica, Namibia, New Zealand, etc.

**AGNR 74F SUSTAINABLE BUILDING AND ENERGY PRACTICES**

Units: 1.0 - 16-18 hours lecture. (No prerequisite. Grade Option) Maybe taken three times.

The technology to reduce our reliance on fossil fuels by producing energy alternately and building in a sustainable manner is very well represented in the Western Mojave Desert. Students study the latest technology to produce energy from the sun, wind, animal waste and plant matter. The "smart" building practices of straw-bale, Super Adobe, Cob, grey-water and radiant heating are explored.

**AGNR 75 ENVIRONMENTAL CONSERVATION TECHNOLOGY LABORATORY**

Units: 2.0-4.0 - 96-216 hours laboratory, depending on unit value, (per term).

Students gain hands-on experience with the concepts and technology that support conservation in the Mojave Desert. Students collaborate with natural resource managers in the design and implementation of conservation projects. Projects include: desert restoration, water conservation, GPS/GIS, air quality management, alternative energy, green building and environmental horticulture.

**AGNR 76 ADVANCED IRRIGATION TECHNOLOGY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade Option) This course may be taken three times.

Students will focus on advanced irrigation technology and will be introduced to state-of-the-art software, irrigation equipment, water management techniques and water quality technology that supports better management of our limited water supply.

**AGNR 80 MASTER GARDENER**

Units: 2.0 - 32-26 hours lecture. (No prerequisite. Pass/No Pass.)

This course is intended for homeowners and professionals who wish to increase their proficiency in High Desert gardening. Focus on: plant selection, drip irrigation, fruit, vegetables, roses, fertilizers, mulches, soil amendments, composting, herbaceous plants, landscape design, pruning, maintenance, weed control, cactus, succulents, turf-grass and water features.

**AGNR 100 GENERAL ANIMAL SCIENCE**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite)

A scientific overview of livestock and poultry; highlights anatomy and physiology, reproduction, nutrition, behavior, health, and marketing pertinent environmental and social issues, to include animal welfare. Includes human opportunity to influence trait inheritance, population densities, productivity and sustainability of animal production industry. Focus on technologies that assure efficiency and viability of this industry.

**AGNR 101 ANIMAL NUTRITION**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite)

This course covers modern nutritional techniques in large animal production and management. Anatomy of large animal digestive systems will be discussed along with feed composition and meeting large animal dietary requirements for maximum performance and growth. Students will formulate rations for a variety of livestock.

**AGNR 102 EQUINE SCIENCE**

Units: 4.0 - 64-72 hours lecture. CSU. (No prerequisite)

An overview of the equine industry encompassing the role of the equine species throughout history. Breed selection, development, nutrition, diseases, preventative health, reproductive management, basic horsemanship, and management practices. Emphasis placed on the practices, breeds and career opportunities that are appropriate to the California horse industry.

**AGNR 120 PEST MANAGEMENT IN ENVIRONMENTAL HORTICULTURE**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

Students will learn how to employ the principles and concepts of managing insects, diseases and weeds of the landscape and nursery environment, and their identification and control. To include concept of Integrated Pest Management, laws, and regulations. Effective use of pesticides and herbicides will be emphasized.

**AGNR 121 INTRODUCTION TO ENVIRONMENTAL HORTICULTURE**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

Introduction to environmental horticulture with an emphasis on nursery operations, landscaping, turf management and ecological restoration. Topics include basic plant structure, cultural practices, propagation, landscape structures and layout, seed management, soil analysis, pest management, plant identification, turf grass care and survey of career opportunities.

**AGNR 122 PLANT PROPAGATION AND GREENHOUSE PRODUCTION**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

Students will explore the challenges of propagation and production of native and drought tolerant plants that are adapted to the extreme climate of the High Desert using techniques commonly used in a professional nursery/greenhouse environment. Topics include sexual and asexual propagation techniques including: seeds, cuttings, layering, division, bulbs, grafting and budding. The greenhouse production techniques for transplanting; fertilizing; pest, humidity, water and temperature control are studied. Nursery operations such as: growing structures, site layout, preparation of planting media, use and maintenance of tools and equipment, and regulations pertaining to plant production are emphasized. This class is highly recommended for all landscape, environmental horticulture and ecological restoration certificate candidates.

**AGNR 123 INTRODUCTION TO PLANT SCIENCES**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade option)

This course provides an introduction to plant science with topics in plant structure and function and the environmental factors involved in plant growth and development. Students learn: plant physiology, plant reproduction and propagation, effects of soil, water, and climate, use of plants to meet human needs, sustainable

horticultural practices, integrated pest management, the role of new technologies in contemporary plant science. Application to Mojave Desert issues and to careers in horticulture, agriculture, natural resource management and restoration ecology are emphasized.

**AGNR 129 WATER EFFICIENT LANDSCAPING**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite. Pass/No Pass)

This is a combination course covering the seven xeriscape principles: landscape planning and design, limited turf areas, efficient landscape irrigation, soil improvement and mulching, use of low water plants, disease, weed, and insect control, and appropriate landscape maintenance.

**AGNR 131 SOIL SCIENCE**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

Exploration of the physical, chemical, and biological characteristics of soils. Focus on soil and plant relationships, principles of soil formation, fertilizers and soil management, salinity, PH, erosion management, and non-agricultural uses. Emphasis is placed on soil as a natural resource and on its conservation in a desert ecosystem.

**AGNR 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**AGNR 140 PLANT MATERIALS AND USAGE I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite )

Identification, growth habits and cultural requirements for plants common to the California landscape. Emphasis is placed on plants that have adapted to the climate of the High Desert and ones that are drought tolerant.

**AGNR 141 NATIVE PLANT MATERIALS AND USAGE**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

This class teaches the identification, growth habits, propagation, seed collecting techniques and ecology of California native plants. The use of native plants in restoration, sustainable agriculture, fire ecology and land development in the Western Mojave Desert is emphasized.

**AGNR 148 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU

**AGNR 149 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

**AGNR 150 LANDSCAPE DESIGN**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

Fundamentals and history of landscape design. Studies of color, texture, form and use of landscape material. Consideration will also be given to proper site layout with regard to existing elevations and conservation management. Emphasis will be on selection and placement of plant material, walks, patios, decks, and other structures for landscape use. Students design and draft actual landscape projects.

**AGNR 151 LANDSCAPE CONSTRUCTION**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

Techniques used in constructing wood, concrete, and masonry projects common in the landscape industry. Labs include using wood products for structures, decks, gazebos and fences. Estimating procedures, planning, mixing and forming for concrete walkways are identified.

**AGNR 152 INTRODUCTION TO IRRIGATION**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

Prepares students to design, install and maintain a water efficient landscape irrigation system. Topics include water supply, basic hydraulics, component identification and terminology, system layout, pipe sizing; types of heads, valves, controllers. Students will gain appreciation for water conservation and quality issues. Students will also learn to troubleshoot irrigation design and electrical problems.

**AGNR 153 LANDSCAPE MAINTENANCE FUNDAMENTALS**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

Maintenance of trees, shrubs and ground covers, cultural requirements, pruning, fertilizing, and irrigation. Repair of irrigation systems and equipment.

**AGNR 154 LANDSCAPE AND NURSERY MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. CSU.

A combination course covering the basics of landscaping and nursery management.

**AGNR 160 BEGINNING FLORAL DESIGN**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

An introduction to the fundamental theories, techniques and skills currently practiced in the floral industry. Includes applied art principles, cut flower care, handling practices, proper use of florist tools and materials, pricing of floral products and use of current floral business technology. Students construct corsages, floral arrangements, and foliage plant items which meet floral industry standards.

**AGNR 161 ADVANCED FLORAL DESIGN**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite) This course may be taken four times.

Contemporary design theory emphasizing creativity, self-expression, and professional design situations. Students learn the skills and techniques of the floral industry, including wedding, sympathy, party, holiday, high style and advanced floral designs and displays. Other techniques include working with the customers, consultations, pricing and the use of computers.

**AGNR 170 ENVIRONMENTAL SCIENCE AND SUSTAINABILITY**

Units: 4.0 - 64-72 hours lecture. CSU (No prerequisite)

Sustainable use and conservation of the world's environment and natural resources, including soil, water, forest, mineral, plant, and animal life, with particular attention to California conditions. Sustainability principles, scientific concepts, modern problems in resource use, global environmental issues and the citizen's role in conservation. The bio-diverse Mojave Desert serves as an exciting "living lab" to study this emerging field.

**AGNR 171 INTRODUCTION TO GEOGRAPHIC INFORMATION SCIENCE**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite). This course may be taken three times.

Focus on electronic methods of cartography following a presentation of mapping concepts and methods. This course covers the history, structure and uses of the basic operations of Geographic Information Systems (GIS), including hardware and software requirements. Examination of the role of other spatial technologies: aerial photography, remote sensing, and Global Positioning Systems (GPS).



**AGNR 175 AGRICULTURE, ENVIRONMENT, AND SOCIETY**

Units: 3.0 - 48-54 hours lecture. CSU, UC (No prerequisite)

This course explores the sociology of agriculture presented through an examination of relationships between societies and their environments, economics, and agriculture. Emphasis on the analysis of agriculture's use of technology and the corresponding impact on the environment, economy, society and sustainable development.

**ALCOHOL AND DRUG STUDIES**

Programs in Alcohol and Drug Studies offered at community colleges explore various aspects of alcohol and drug abuse, and teach techniques for counseling those who have a substance abuse problem.

At this time, VVC does not offer a certificate in Alcohol and Drug Studies, but the following courses may fulfill some requirements for the Alcohol/Drug Studies Certificate at San Bernardino Valley College: ALDH 125, ENGL 101, PSYC 101, 108, 125, 133, SOC 101, CMST 109.

For more information about the Alcohol/Drug Studies program at SBVCC, visit: <http://www.valleycollege.edu/Department/Academic/Human/index.php>.

**ALLIED HEALTH**

The Allied Health department offers a variety of independent, non-program classes in health interest areas. Some may enable students to work by completing only one class, such as Medical Insurance, Certified Nursing Assistant, EMT, or Basic Arrhythmias. Others support various medical and secretarial programs or meet general interest needs.

The Paramedic and Medical Assistant programs are also in the Allied Health Department but are described in separate sections.

**Career Opportunities**

Insurance Biller  
Monitor Technician  
Nursing Assistant  
Phlebotomist

**Faculty**

**Full Time**  
John Doyle

**Degrees and Certificates Awarded**

Nursing Assistant/Home Health Aide Certificate

**Certificate Program****NURSING ASSISTANT/  
HOME HEALTH AIDE CERTIFICATE**

Units Required: 7.0

This certificate prepares the student to take the state certification exam for nursing assistant and seek a job in a skilled nursing facility, long term care or home care.

The state-approved certification program enables students to become familiar with basic principles of bedside nursing, including procedures and techniques

for basic patient care. Clinical experience is provided in state-licensed, long-term care skilled nursing facilities. Students will learn to meet the patient's basic physical and psychological needs and promote a spirit of restoration and independence in a safe, efficient and competent manner. Entrance to class does not guarantee graduation or certification. Must achieve a grade of "C" or better in theory and clinical portions of the program in order to qualify to sit for the state certification exam.

**Prerequisites:** Documented clearance for any crime more serious than a minor traffic ticket. Fingerprints must be obtained upon enrollment in the program and prior to patient contact. State regulations require documented proof of students' ability to speak, read, write, and comprehend the English language at the sixth grade level.

A **mandatory orientation** is scheduled before the semester begins; please check with the department for upcoming dates and times. Class enrollment is not necessary to attend orientation meeting.

**Co-requisite:** Healthcare Provider CPR card must be current at the end of the program.

ALDH 60	Nursing Assistant	5.5
ALDH 61	Home Health Aide	1.5

**Associate Degree**

No associate degree is awarded with a major in Allied Health. Some Allied Health courses fulfill requirements for certificates and majors in Business Education Technologies, Medical Assistant, and Paramedic. See specific programs for certificate and degree requirements. ALDH 138 (Cooperative Education) may be used as elective credit but may not be used to fulfill major requirements.

**Transfer**

Not a transfer major. Some Allied Health courses transfer as electives or fulfill subject credit requirements.

**ALLIED HEALTH COURSES**

**ALDH 50 PARAMEDIC ANATOMY AND PHYSIOLOGY**

Units: 2.5 - 64-72 hours lecture. (Prerequisite: Application and acceptance into the Paramedic Academy and ALDH 71 with a grade of "B" or better). This course may be taken three times.

This is the introductory course of the Paramedic program. This course includes basic anatomy, physiology, and medical terminology for the paramedic.

**ALDH 51 PARAMEDIC INTRODUCTION TO EMS**

Units: 1.5 -24-27 hours lecture. (Prerequisite: Application and acceptance into the Paramedic Program.)

This course covers the roles and responsibilities of the EMT-P. It also includes the Emergency Medical Services System and EMS communication as it relates to the EMT-P.

**ALDH 52 PARAMEDIC CARDIOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: Application and acceptance into the Paramedic Program and successful completion of ALDH 50 and ALDH 51 with a "B" grade or better.)

This course covers the cardiovascular system and includes anatomy and physiology of the heart, and application and interpretation of EKG's.

**ALDH 53 PARAMEDIC PHARMACOLOGY**

Units: 3.5 - 48-54 hours lecture and 24-27 hours laboratory. (Prerequisite: Application and acceptance into the Paramedic Program and successful completion of ALDH 50 and ALDH 51 with a grade of "B" or better.)

This course will cover the general principles of pharmacology including calculations and administration of various medications.

**ALDH 54 PARAMEDIC ADVANCED CARDIAC LIFE SUPPORT**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. (Prerequisite: ALDH 53 with a grade of "B" or better.)

This course will provide a review of basic cardiology, pharmacology, and EKG interpretation used in Advanced Cardiac Life Support.

**ALDH 55 EMERGENCY MEDICAL SERVICES**

Units: 10.0 - 128-144 hours lecture and 96-108 hours laboratory. Offered Fall. (Prerequisite: Application and acceptance into the Paramedic Program is required before registering for this course and successful completion of ALDH 50, 51, 52, 53 and 54 with a grade of "B" or better.)

This course covers the theoretical and scientific background of emergency medical care in the pre-hospital setting to include patient assessment, trauma and medical emergencies, and skills practice in the lab.

**ALDH 56 PARAMEDIC CLINICAL**

Units: 4.0 - 192-216 hours laboratory. (Prerequisite: Application and acceptance into the Paramedic

Academy and successful completion of ALDH 55 with a "B" grade or better.)

This course is the first part of the student's internship as part of the Paramedic Program. This includes lab hours at an acute care facility performing Inland Counties Emergency Medical Agency Skills.

#### **ALDH 57 PARAMEDIC FIELD INTERNSHIP**

Units: 11.0 - 528-594 hours laboratory. Offered Spring. (No prerequisite)

This course is the field internship portion of the Paramedic program. Students will spend lab hours in the field with a transport service performing Emergency Medical Technician skills.

#### **ALDH 60 NURSING ASSISTANT**

Units 5.5 - 48-54 hours lecture and 120-135 hours laboratory. Offered Fall, Spring. (Prerequisites: Documented clearance for any crime more serious than a minor traffic ticket). Fingerprinting will be required. Health exam prior to clinical rotation. Co-requisite: Current healthcare provider CPR card.

Enables students to become familiar with basic principles of nursing, including procedures and techniques. Clinical experience is provided in extended care facilities. Students will learn to provide and meet the patient's basic physical and psychological needs and promote a spirit of restoration and independence in a safe, efficient, and competent manner. State approved precertification program. Does not guarantee certification. Must achieve a grade of "C" or better to take state certification examination.

#### **ALDH 61 HOME HEALTH AIDE**

Units: 1.5 - 20 hours lecture and 24 hours laboratory. (Prerequisites: Must have current and active California CNA certificate). Students who have completed Victor Valley ALDH 60 Nursing Assistant course, but have not completed the state exam may enter the course. State Home Health Aide certification will be contingent upon passing the State CNA Certification exam. Co-requisite: Current Healthcare Provider CPR card or concurrent enrollment in ALDH 91 or other acceptable Healthcare Provider CPR course.)

Enables students to become familiar with basic principles of nursing care in a home-style setting. Clinical experience is provided in residential care facilities. Students will learn to provide and meet the patient's basic physical and psychological needs and to promote a spirit of rehabilitation and independence in a safe, efficient and competent manner. State approved certification course. A grade of "C" or better must be earned to receive state certification.

#### **ALDH 62 ACUTE CARE CNA**

Units: 4.0 - 51 hours lecture and 51 hours laboratory. (Prerequisites: Must have a current and active State of California Certificate for Nursing Assistant (CNA ).

Students that have completed Victor Valley ALDH 60 Nursing Assistant course, but have not completed the state exam may enter the program. Certification of completion by Victor Valley College will be contingent upon the student also passing the State CNA Certification exam. Co-requisite: Current Healthcare Provider CPR card.)

This course will allow the Certified Nursing Assistant to expand upon basic nursing practices to include those specific for the acute care setting. Clinical experience is provided in acute care facilities. Students will learn nursing practice skills related to the medical-surgical patient and will have an understanding of physical and psychosocial changes seen in the acute setting. Must achieve a grade of "C" or better to receive Victor Valley College Certification.

#### **ALDH 70 EMERGENCY MEDICAL RESPONDER**

Units: 2.5 - 32-36 hours lecture and 24-27 hours laboratory. (No prerequisite)

This course provides training in basic emergency care skills, including patient assessment, CPR, automated external defibrillation, use of definitive airway adjuncts, splinting, and control of bleeding.

#### **ALDH 70B EMERGENCY MEDICAL RESPONDER-REFRESHER**

Units: 1.5 - 16-18 hours lecture and 24-27 hours laboratory. (No prerequisite. Grade Option.)

This course provides refresher training for re-certifying the Emergency First Responder. Training includes basic emergency care skills, including patient assessment, CPR, automated external defibrillation, use of definitive airway adjuncts, splinting, and control of bleeding.

#### **ALDH 71 EMERGENCY MEDICAL TECHNICIAN I**

Units: 9.0 - 120-135 hours lecture and 72-81 hours laboratory. (Prerequisite: 18 years of age before first day of class and a minimum grade of "B" in CPR equivalent to 2005 AHA BLS for Healthcare providers. State mandated.)

This course provides training in basic emergency care skills, including CPR, automated external defibrillation, use of definitive airway adjuncts, and assisting patients with certain medications. Approved by the Inland Counties Emergency Medical Agency. All students must be eighteen years of age and have CPR (Cardio-Pulmonary Resuscitation) training equivalent to the American Heart Association Healthcare Provider Level

(Title 22, Div. 9, Ch. 2, Sect. 100066 b2 California Code of Regulations) prior to the first day of class due to current clinical/field internship affiliation agreements.

**ALDH 72 EMERGENCY MEDICAL TECHNICIAN (AMBULANCE) REFRESHER COURSE**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. (No prerequisite)

Thirty hour refresher course required for renewal of Emergency Medical Technician I Certificate. New Certificate of Completion awarded. Course approved by the Inland County Emergency Medical Agency.

**ALDH 76 ATHLETIC TRAINING II**

Units: 2.0-6.0 - 108-324 hours laboratory. See cross-listing for PE 76. (Prerequisite: ALDH 141 or PE 141 Athletic Training I, or equivalent.) This course may be taken four times.

In this course, students will provide the pre-participation, on-site first aid and event maintenance for fall/winter/spring sports programs at VVC (baseball, basketball, football, golf, soccer, softball, tennis, volleyball and wrestling.) Experience will include but is not limited to, prophylactic taping and padding, immediate first aid, monitoring vital signs, completion of accident forms, proper use of universal biohazard precautions, supervision of safe playing conditions and coaching techniques, recognition of medical emergencies, assisting other medical personnel as needed, game preparation and pre-participation medical screenings.

**ALDH 77 ATHLETIC TRAINING IV**

Units: 2.0-6.0 - 108-324 hours laboratory. (Prerequisite: ALDH 141 or PE 141 Athletic Training I, or equivalent.) This course may be taken four times.

In this course, students will provide the care to athletes involved in fall/winter/spring sports programs at VVC (baseball, basketball, football, golf, soccer, softball, tennis, volleyball and wrestling.) Experience will include but is not limited to development and implementation of rehabilitation protocols. Use of modalities including, whirlpool, ultrasound, ice, Emergency Medical Services, hydrocolator, range of motion exercises, joint mobilization, strengthening exercises (isokinetic, isotonic, isometric), cardiovascular conditioning and proprioceptive exercises. See cross-listing for PE 77.

**ALDH 80 PHARMACOLOGY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

Current concepts of pharmacology, its relationship to patient care, and legal and ethical considerations are covered. Basic mechanisms of drug action,

administration, toxicity, side effects, and dosages are also included.

**ALDH 81 MEDICAL INSURANCE**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

Intensive instruction and drill in completing medical insurance forms for the private sector, industrial Medi-Care, Medi-Cal, Medi-Care/Medi-Cal patient. Basic skills in billing, collecting, banking, and preparation of payroll.

**ALDH 82 MEDICAL OFFICE PROCEDURES**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course provides practice in medical office procedures, proficiency in typing medical correspondence, case histories, insurance forms, and reports. Study of telephone techniques, medical record-keeping, and filing. Verbal communication with patients, other offices, and facilities. Preparation and assistance with common back office procedures.

**ALDH 82C MEDICAL OFFICE PROCEDURES – CLINICAL**

Units: 5.0 - 240-270 hours laboratory. (Prerequisite: ALDH 82 with a grade of 'C' or better.) This course may be taken three times.

This course is designed to provide the externship component of Allied Health 82, Medical Office Procedures. The individual students will presented with 270 hours of practical clinical experience. This will be performed in rotation sequence in the offices and clinics of qualified physicians located throughout the High Desert.

**ALDH 82D MEDICAL ASSISTING EXAM REVIEW**

Units: 3.0 - 48-54 hours lecture. (Prerequisite: Successful completion of ALDH 82 or equivalent and ALDH 82C or equivalent.)

This class will prepare the student for the medical assisting certification exam. The student will learn strategies to help identify strengths and weaknesses and develop a realistic study plan.

**ALDH 83 BASIC ARRHYTHMIA**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

A review of the general anatomy and physiology of the heart and coronary system, with complications associated with acute myocardial infarction with strong electrophysiological/arrhythmogenic component. Upon successful completion, the student will receive a certificate in Basic Electrocardiography and Arrhythmia Interpretation. (This course has been approved by the

Board of Registered Nursing for Continuing Education credit.)

#### **ALDH 84 INTRAVENOUS THERAPY**

Units: 2.0 - 30 hours of theory/laboratory and 6 hours of clinical practice in IV therapy. (No prerequisite)

Approved by the Board of Vocational Nursing and the Board of Registered Nursing for Continuing Education. Emphasis placed on providing factual knowledge base, patient-centered psychological aspects, venipuncture techniques and materials. Legal aspects, especially as they relate to LVN's and RN's, are included.

#### **ALDH 90A CERTIFIED PHLEBOTOMY TECHNICIAN 1A**

Units: 5.0 - A minimum of 48-54 hours of didactic, 48-54 hours laboratory, and 48-54 hours of practical clinical instruction will be required. (Prerequisite: High School graduate or GED, or documentation of equivalent education; must be 18 years of age or older.)

Certified Phlebotomy Technician 1A prepares a student with the education, training, experience, and examination requirements as specified by the California Department of Health Services, to perform skin punctures or venipunctures in a hospital, clinical lab or doctor's office.

#### **ALDH 90B CERTIFIED PHLEBOTOMY TECHNICIAN 1B**

Units: 3.0 - 48-54 hours lecture. (Prerequisite: High School graduate or GED or documentation of equivalent education. Employed within the past 5 years as a Phlebotomist with less than 1040 hours of experience. Completion of 50 successful venipunctures and 10 successful skin punctures.)

Certified Phlebotomy Technician 1B is designed for a student who has less than 1040 hours of job experience and has completed 50 successful venipunctures and 10 successful skin punctures and observation of 2 arterial blood gases within the past 5 years. Experience needs to be documented on a California Statement of Phlebotomy Practical Training Form. This course will prepare the student for the national examination by covering 24-27 hours of basic didactic material and 24-27 hours of advanced didactic material in phlebotomy techniques. This course does not require the student to attend a pre-lab or clinical component.

#### **ALDH 90C CERTIFIED PHLEBOTOMY TECHNICIAN 1C**

Units: 1.5 -24-27 hours lecture. (Prerequisite: High School graduate or GED or documentation of equivalent education. Employed within the past 5 years as a Phlebotomist with 1040 hours or more of on-the-job experience. Completion of 50 successful venipunctures and 10 successful skin punctures).

Certified Phlebotomy Technician 1C is designed for a student who has 1040 hours or greater of on-the-job experience and who has completed 50 successful venipunctures and 10 successful skin punctures and observation of 2 arterial blood gases within the past 5 years. Experience needs to be documented on a California Statement of Phlebotomy Practical Training Form. This course will prepare the student for the national examination covering 24-27 hours of advanced didactic material in phlebotomy techniques, blood borne pathogens, anti-coagulation theory, specimen collection and transportation. This course does not require the student to attend a clinical component.

#### **ALDH 91 BASIC CPR (CARDIOPULMONARY RESUSCITATION)**

Units: 0.5 - 2 hours lecture and 10 hours laboratory. (No prerequisite)

Emergency first aid procedure that consists of recognizing respiratory and cardiac arrest and starting the proper application of cardiopulmonary resuscitation to maintain life until advanced life support is available. Upon successful completion of the course, the student will receive a Basic CPR Certificate from the American Heart Association.

#### **ALDH 125 MEDICAL ASPECTS OF DRUGS AND ALCOHOL**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

This course will provide an in-depth study of the physiological effects and medical consequences of drug and alcohol use and abuse, including the effects on the central nervous system and behavior. The pharmacological aspects of drug and alcohol use will be presented including metabolism of various drugs, the meaning and implication of "half-life," tolerance, dependence, addiction process, and withdrawal. Categories of substances covered will include major and minor stimulants, alcohol, depressants, psychotropic drugs, opiates, marijuana, hallucinogens, and other prescription and over-the-counter drugs.

#### **ALDH 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

#### **ALDH 139 MEDICAL TERMINOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course describes the body's anatomical systems with stress placed on medical terms, their use, spelling, and pronunciation. The use of these terms is defined in regard to anatomy, physiology, treatment, and surgery.

**ALDH 141 ATHLETIC TRAINING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU,UC. See cross listing for PE 141. (No prerequisite. Interest and/or experience in athletics and sports recommended)

Introduction to principles of athletic training, including prevention, evaluation, treatment, and rehabilitation of common athletic injuries.

**ALDH 142 ATHLETIC TRAINING II**

Units: 3.0 – 32-36 hours lecture and 48-54 hours laboratory. CSU. (Recommended Preparation: ALDH 141 or PE 141 Athletic Training I, or equivalent.)

This course will build on the students basic knowledge of human anatomy and athletic injuries. Topics will include emergency procedures, current health concerns of the athlete, protective devices, advanced taping techniques and injury management. See cross-listing for PE 142.

**ALDH 148 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU

**ALDH 149 INDEPENDENT STUDY (formerly AH49)**

See Independent Study listing (1-3 units). CSU

**AMERICAN SIGN LANGUAGE COURSES****ASL 121 FINGERSPELLING (Formerly CMST 121)**

Units: 1.0 - 16-18 hours lecture. CSU. (No prerequisite)

An introductory course that teaches the student the appropriate application of fingerspelling and its production. The course will include strategies for improvement. Also included will be the articulation of loan signs and one to three digit numbers. Emphasis on both receptive and expressive fluency.

**ASL 122 AMERICAN SIGN LANGUAGE 1 (Formerly CMST 122)**

Units: 4.0 - 64-72 hours lecture. CSU, UC. (No prerequisite)

An introduction to American Sign Language as it is used with deaf community. Students will study the basic structure and development of the language as well as deaf culture. Emphasis is placed on both receptive and expressive skills.

**ASL 123 AMERICAN SIGN LANGUAGE II (Formerly CMST 123)**

Units: 4.0 - 64-72 hours lecture. CSU, UC. (Prerequisite: ASL 122)

A continuation in the study of American Sign Language as it is used within the deaf culture. Instruction is provided in the basic structure of the language. Emphasis is placed on both receptive and expressive skills.

**ASL 124 AMERICAN SIGN LANGUAGE III (Formerly CMST 124)**

Units: 4.0 - 64-72 hours lecture. CSU, UC. (Prerequisite: ASL 123)

Continuation of development of skill in American Sign Language with emphasis on an intermediate level of comprehension and expression. Students will progress in their study of the structure and grammar of American Sign Language as well as deaf culture. Emphasis is placed on both receptive and expressive skills.

**ASL 125 AMERICAN SIGN LANGUAGE IV (Formerly CMST 125)**

Units: 4.0 - 64-72 hours lecture. CSU, UC. (Prerequisites: ASL 124)

A continuation in the study of American Sign Language and the deaf community including its history and culture. Emphasis will be on receptive and expressive skills as they relate to narrating life events. Students will learn techniques such as role-shifting, use of space and classifiers in addition to appropriate non-manual

behaviors. This course will prepare the student for entrance into an interpreter training program.

**ASL 126 INTRODUCTION TO INTERPRETING (Formerly CMST 120)**

Units: 4.0 - 64-72 hours lecture. CSU, UC. (Prerequisite: ASL 125. Grade Option)

This course introduces the field of American Sign Language interpreting and includes models of interpreting, ethical principles, and its history and development in modern times. Attention will be given to the development of necessary processing skills for consecutive interpretation.

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**ANATOMY**  
See **Biology**

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**ANIMATION**

See **Media Arts** and **Computer Integrated Design and Graphics**

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**ANTHROPOLOGY**

Training in anthropology will prepare one for any career that involves working on the interface between cultures. Specialized preparation in this subject can lead to some of the world's most interesting work - the study of existing lifeways, archaeological excavation and interpretation, primate behavior, and social research into economics, politics, law, religion, art, and music.

**Career Opportunities**

Careers in anthropology are diverse, specialized, and related to the various areas of concentration which are offered at four-year college and universities: Listed below are just a few examples:

- Archaeologist - Federal/State/Private
- Cultural Resource Management
- Environmental Impact Analyst
- Expedition Guide
- Forensic Anthropologist
- Health Researcher
- Museum Curator/Exhibit Designer
- Population Analyst
- Urban Planner Analyst

**Faculty**

**Full Time**

Richard Cerreto

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts

**Associate Degree**

No associate degree awarded with a major in Anthropology. Anthropology courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Anthropology major*
- **University of California, Riverside**  
*Anthropology major*

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**ANTHROPOLOGY COURSES**

**ANTH 101 INTRODUCTION TO PHYSICAL ANTHROPOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Grade Option)

Biological anthropology explores the biological development and adaptations of humans in relation to their different natural environments through the biological approach. This course provides information on how and why human populations vary within and between themselves; how and why humans have changed biologically and behaviorally through time; physical and behavioral comparisons between human and non-human primates; and biological and behavioral/technological development from the earliest to modern humans.

**ANTH 101L PHYSICAL ANTHROPOLOGY LABORATORY**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (Co-requisite: ANTH 101. Grade Option) This course may be taken two times.

Coordinated with the lecture, this optional lab provides hands-on experience in human genetics, variation, and evolution; comparisons of non-human primate behavior; knowledge of the human skeleton and forensic identification methods.

**ANTH 102 INTRODUCTION TO CULTURAL ANTHROPOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Grade Option)

Cultural anthropology explores the social aspect of being human, in context with the multicultural approach. This course provides comparisons of all aspects of culture such as societal organization, economy, marriage and family, language development, gender issues, religion, and traditions and rituals. The development and evolution of cultural groups is discussed in relation to how several of these groups successfully adapt to particular environments. Drawing from anthropology and other social sciences, the history and development of modern World System and its effect on culture groups worldwide is outlined.

**ANTH 103 INTRODUCTION TO ARCHAEOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Grade Option)

Archaeology is the study of human groups in the context of their historic and prehistoric past. Through excavation of archaeology sites and laboratory analysis, archaeologists investigate and reconstruct the time frame, the life activities, and technological changes of ancient cultures. This course provides information on the history and development of archaeology, the archaeological methods used to excavate sites, how archaeologists relate the artifacts and other remains found on the sites to human behavior, how the sites within a region relate to each other and the natural surroundings, and the theoretical framework that helps

to explain the behavioral and technological changes through time.

**ANTH 103F ARCHAEOLOGY FIELD CLASS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade Option.)

This course provides the student with hands-on experience in the excavation and investigation of an archaeology site and the materials contained in archaeology sites, the archaeological methods used to excavate sites, and how archaeologists relate the artifacts and other remains found on the sites to human behavior.

**ANTH 103L ARCHAEOLOGY LAB**

Units: 3.0 - 16-18 hours lecture and 96-108 hours laboratory. (No prerequisite. Grade Option)

This course is designed as a laboratory class that compliments the Archaeology Field Course. The class introduces the students to laboratory work in archaeology, providing hands-on experience. Students learn to process the materials collected from the field class archaeology site, from cleaning and identification to their analysis.

**ANTH 106 INTRODUCTION TO LINGUISTIC ANTHROPOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC (No prerequisite. Grade Option)

This course examines human language systems and their significance in social context. Topics that will be covered include the origins and evolution of language; nonhuman primate communication systems; language classification; language structure; semantic systems; the social and cultural function of language; language acquisition; language change and the reconstruction of language at earlier stages.

**ANTH 107 INTRODUCTION TO FORENSIC ANTHROPOLOGY AND ARCHAEOLOGY**

Units: 3.0 - 32-36 hours lecture and 24-27 hours laboratory. (No prerequisite. Grade Option)

This course is designed to introduce the student to the specialty fields of forensic anthropology and forensic archaeology. The student will become familiar with archaeological field methods and many of the basic techniques used by forensic anthropologists.

**ANTH 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC



**ANTH 151 WORLD DANCE**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU, UC (No prerequisite) This course may be taken four times.

This course is designed to introduce students to the elements of dances and dance techniques from specific regional areas, cultures, or ethnic groups. This introduction will include the geographic, historic, social and aesthetic factors that have shaped the development and function of such movement. Dances from at least three culture areas will be used as examples during a semester, and will vary from semester to semester. See cross listing for PE 151.



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**ARCHITECTURE**

Victor Valley College does not offer an Architecture program but does offer preparatory courses for transfer into Architecture.

An architect develops concepts for design projects which range from single objects such as a piece of furniture to complex, high-rise office buildings. The Architecture program is centered on the design laboratory experience with students progressing toward comprehensive architectural projects.

Architecture is an impacted major at some universities. As a result, students need to maintain a high GPA, complete as many course requirements as possible before applying for admission, and research all additional program requirements for specific colleges to which they will be applying.

A portfolio of each prospective student's work is usually required with the application. Therefore, students need to contact the college of choice early in their education to assure proper preparation and presentation of their work.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org), or, for private schools, [www.aiccu.edu](http://www.aiccu.edu). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- UC campuses offering Architecture include Berkeley and UCLA
- CSU campuses that offer Architecture include Pomona and San Luis Obispo
- Private schools include University of Southern California (USC) and Woodbury University

**ART AND DESIGN**

Art and design are an integral part of our daily lives as creative expression and as commercial applications. Humankind is reflected in great works of art throughout time, depicting our deeds and actualization. A study in art and design will lead to the development of a diverse range of career possibilities that span from self-expression to commercial design.

Students may choose a program leading to an AA degree, and courses in art are transferable to four-year colleges. Consult with the department chairperson for specialized areas of interest.

**Career Opportunities**

Advertising  
 Architectural Designer  
 Commercial Artist/Graphic Designer  
 Computer Graphics/Imaging/Animation  
 Film Maker  
 Interior Designer  
 Medical Illustrator  
 Photographer/Fine-Art, Commercial  
 Theatre Set Designer  
 Video Director

**Faculty****Full time**

Frank Foster  
 Richard Ripley  
 Brent Wood

**Degrees and Certificates Awarded**

Associate in Arts, Fine Arts  
 Associate in Arts, Liberal Arts

**Certificate Program**

No certificates awarded.

**Associate Degree**

No associate degree awarded with a major in Art. Art courses may be used to fulfill requirements for an Associate of Arts degree with a major in Fine Arts or Liberal Arts. See Fine Arts or Liberal Arts for degree requirements for these majors. ART 138 (Cooperative Education) may be used as elective credit, but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**

*Art major*

■ **University of California, Riverside**

*Art major*

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**ART AND DESIGN COURSES**
**ART 51 MACROMEDIA FLASH APPLICATION DESIGN**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite)

This class introduces web application design and development to students with no prior programming experience. Students will be instructed in and practice creating media rich web applications. Instruction will cover using screens, built in component and behaviors. The course will introduce Action Script programming. At

the end of the course students will be able to design and construct Flash applications. This class is the second class in a three-part series.

**ART 101 SURVEY OF ART HISTORY**

Units: 3.0 - 48-54 hours lecture. CSU, UC.  
 (No prerequisite)

An historical survey of significant art from prehistoric times through the fourteenth century.

**ART 102 SURVEY OF ART HISTORY**

Units: 3.0 - 48-54 hours lecture. CSU, UC.  
 (No prerequisite)

An historical survey of significant art from the Renaissance through modern times.

**ART 103 THE ART OF AMERICAN CINEMA**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite.)

This class traces the development of cinema in America from silent to contemporary films. Our study will address the evolution of moving images as an expression of art and meaning.

**ART 104 FILM AS A ART FORM**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

Film as a form of art and its construction as a communicative, expression of global culture, politics, literature and gender will be studied. Important films will be viewed that address these topics. Students will learn to be more critical viewers of media and its presentation of world culture.

**ART 105 INTRODUCTION TO ART**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

This course is a general introduction to the visual arts, its nature, vocabulary, media, and history. The course examines the historical and contemporary value of art to both the individual and society. Consideration will also be given to a study of the organization and component parts of the visual art and the various media used in the making of art.

**ART 106 ART CONCEPTS**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Grade Option)

This illustrated lecture course will introduce students to the practice, theory and history of art. Art's impact upon

our contemporary society as well as its reflection of history and meaning will be investigated.

#### **ART 107 THE ART AND LIFE OF GREECE**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit pending). (No prerequisite.)

This is an illustrated lecture course focusing on art of the ancient Greek world from c. 1100 BCE to the 1<sup>st</sup> Century. Emphasis is placed upon analysis of the various styles of Greek art from the formative period of Hellenism. The art works are studied and analyzed within the cultural/historical context of the Greek world including mythology, philosophy, and social structure as these relate to the development of Greek art.

#### **ART 108 THE ART AND LIFE OF ITALY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite.)

This is an illustrated lecture course focusing on the arts of Ancient Rome and its influence upon the development of the Western art world. This study focuses on the role of the Etruscans in the development of the early arts of the Roman Empire including the changes brought by the influence of Christianity with a look at the later development of the arts of Italy.

#### **ART 109 SURVEY OF AFRICAN AMERICAN ART**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Grade Option)

This course will survey the arts of the African peoples in diaspora from traditional African arts to contemporary times. Focus will be on identification of artists, art styles within their historical, cultural, political framework and exploration of aesthetic preference.

#### **ART 112 DESIGN I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite) This course may be taken four times.

The focus of this course will be on the basics of design utilizing black and white graphic elements. Emphasis will be placed on the principles and practices of design involved in the production of art forms. Lectures will demonstrate examples of design in classic and contemporary works of art.

#### **ART 113 DESIGN II**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

A continuation of Art 112 utilizing the same principles of design expanded to color and three- dimension. Critiques and lectures will focus student's evaluative

skills in applying comprehension of art history to contemporary concepts of design.

#### **ART 115 WATER-BASED MEDIA**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite) This course may be taken two times.

An introduction to basic water-based painting media and the methods used for applying pigment to paper. Color theory, design principles and a comprehensive history of the medium will be included.

#### **ART 120 ACRYLIC PAINTING I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite. Recommended preparation: ART 112 or ART 113 or ART 125.) This course may be taken two times.

This course is an introduction to acrylic painting methods and techniques with an emphasis on composition, color, and application of general design principles.

#### **ART 121 ACRYLIC PAINTING II**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite. Recommended preparation: ART 120.) This course may be taken two times.

This is an intermediate course in acrylic painting methods and techniques with continuing study of the theory and practice of painting.

#### **ART 122 LIFE DRAWING I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite. ART 125 or ART 126 recommended.) This course may be taken four times.

A beginning life drawing course emphasizing the study and analysis of the human form using basic art materials and fundamental drawing concepts.

#### **ART 123 LIFE DRAWING II**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite. Recommended preparation: ART 125 or ART 126, or ART 122.) This course may be taken two times.

An intermediate life drawing course emphasizing the continued study and analysis of the human form using drawing of the human figure from life.

**ART 124 ANATOMY FOR LIFE DRAWING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite) This course may be taken four times.

Critical dissection of anatomical and physiological studies incorporated into the fine art of life drawing. Repetition of this course provides skill development.

**ART 125 DRAWING I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite. Grade option). This course may be taken four times.

This course is an introduction to principles and techniques in drawing. Students will gain a working knowledge of line, shape, perspective, proportion, volume, and composition. Students will learn how to look at, evaluate and present art work as well as be introduced to traditional and contemporary drawing with an emphasis on the development of observational skills and creative thinking.

**ART 126 DRAWING II**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite. Recommended preparation: ART 125.) This course may be taken two times.

An intermediate drawing course emphasizing development of skills learned in Drawing I with an emphasis on personal expression, thematic development and the use of color. A variety of drawing media will be explored.

**ART 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC

**ART 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

**ART 132 ADVERTISING ART**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

This course will present the elements and principles of advertising design and illustration.

**ART 133 DIGITAL IMAGING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite. Recommended preparation: ART 112 or ART 113.)

An introductory course that explores a fine arts approach to computer generated imaging using Adobe Photoshop.

**ART 134 THE ART OF WEB DESIGN**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

An overview of industry standard software used for creating web pages. This course does not focus on HTML or scripting language but is focused on the development of effective communications design.

**ART 135 INTRODUCTION TO TIME BASED ART/COMMUNICATION**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

This course covers the fundamental elements of creating and editing video using computer technology. Student will be taught how to use computer software to create dynamic visual content as it relates to artistic expression.

**ART 136 PRINTMAKING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Recommended preparation: ART 125 or courses in drawing.)

This is an introductory course in the principles, techniques, practice and historical development of printmaking. Students will be exposed to the practice of printmaking as an original art form. Students will gain a working knowledge of relief printmaking techniques, including Woodcut, Linocut, Intaglio printmaking (drypoint), Collagraph and Monotype printing. Students will learn how to observe, create, present and evaluate prints in a critical manner.

**ART 138 COOPERATIVE EDUCATION**

See Cooperative Education Listing (1-8 units). CSU

**ART 141 SCULPTURE I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite) This course may be taken two times.

Students explore the principles of three-dimensional forms in space in order to develop an understanding of the relationship between form, space and materials and process. In order to construct their own ideas in space, students will become familiar with a variety of materials, which may include clay, metal, wood and stone.

**ART 142 SCULPTURE II**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Recommended preparation: ART 141 or ART 112 or ART 113.) This course may be taken two times.

Students explore the traditional materials and techniques of sculpture such as building armatures, sculpting in wax, plaster and clay, mold making methods, and surface treatments for the sculptural pieces which may include stains, patina, antiquing and waxing of plaster and applying slips and glazes to clay.

**ART 150 OIL PAINTING I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite.) This course may be taken two times.

A beginning course in painting using oil color. Repetition of this course provides the opportunity for increased skill development.

**ART 151 INTERMEDIATE OIL PAINTING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite) This course may be taken four times.

There will be continuation of techniques covered in Art 150 with an emphasis upon aesthetics, art history, critical analysis, and creativity. The student, through his own resourcefulness, is to formulate problems of compositional design, control of the medium and establish value judgments based upon fact that will be reflected in his works. Repetition of this course provides the opportunity for increased skill development.

**ART 160 SURVEY OF VISUAL COMMUNICATION TECHNOLOGIES**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

An overview of digital design software used by graphic designers. Students are given the opportunity to sample professional digital design tools while applying the fundamentals of design.



**ASTRONOMY COURSES**

**ASTR 101 DESCRIPTIVE ASTRONOMY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A comprehensive study of astronomy. The historical development of astronomy, the structure of the solar system, modern techniques and instruments, the character of nebulae and galaxies, stellar character and theories, and the philosophical implications of astronomical discoveries.

**ATHLETICS**

In keeping with the philosophy of providing programs to meet the diverse needs of students so that they may continue to develop physically, mentally, and emotionally throughout their lifetime, Victor Valley College supports and encourages students to participate in its athletic programs.

To meet this philosophic commitment, Victor Valley College athletic offerings include football, softball, men's and women's tennis, women's volleyball, men's and women's basketball, wrestling, golf, men's and women's soccer, men's and women's cross country, men's and women's track and field, and baseball.

Victor Valley College is a member of the Foothill Athletic Conference and also competes with other community college conferences, California State and University junior varsity teams, private colleges, and service teams. A student must be enrolled in 12 units to participate in the intercollegiate athletic program. Student athletes are granted up to two years of eligibility per sport but must complete 24 units between seasons of competition with a "C" or better grade average in order to be eligible for the second year.

There are other factors that are essential in determining eligibility, and athletes should consult with the Eligibility Evaluator regarding eligibility matters. All varsity athletic classes meet 10 laboratory hours per week for 3 units. CSU, UC (UC credit limitation).

**MEN'S AND WOMEN'S SPORTS BY SEASON**

<u>Fall</u>	<u>Spring</u>
Basketball (M,W)	Basketball (M,W)
Cross Country (M,W)	Baseball (M)
Football (M)	Golf (M)
Soccer (M,W)	Softball (W)
Volleyball (W)	Tennis (M,W)
Wrestling (M)	Track and Field (M,W)

**ATHLETICS COURSES**

**ATHL 120 VARSITY BASEBALL**

Units: 3.0 - (No prerequisite. Recommended preparation: ATHL 120P) This course may be taken four times.

Students will learn the intermediate and advanced skills, rules, and strategies for competition in baseball. CSU, UC (UC maximum credit allowed: 4 units)

**ATHL 120P PREPARATION FOR INTERCOLLEGIATE MEN'S BASEBALL**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken four times.

This Men's Baseball course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

**ATHL 121 VARSITY BASKETBALL (MEN)**

Units: 1.5 - (No prerequisite. ATHL 121P recommended) 72-81 hours lab. This course may be taken four times.

Students will learn the intermediate/advanced skills, rules, and strategies for competition in basketball. CSU, UC (UC maximum credit allowed: 4 units)

**ATHL 121P PREPARATION FOR INTERCOLLEGIATE MEN'S BASKETBALL**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken four times.

This Men's Basketball course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

**ATHL 122 VARSITY BASKETBALL (WOMEN)**

Units: 1.5 - (No prerequisite. ATHL 122P recommended) 72-81 hours lab. This course may be taken four times.

Students will learn the intermediate/advanced skills, rules, and strategies for competition in basketball. CSU, UC (UC maximum credit allowed: 4 units)

**ATHL 122P PREPARATION FOR INTERCOLLEGIATE WOMEN'S BASKETBALL**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken two times.

This Women's Basketball course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU(UC pending approval)

**ATHL 123 CROSS COUNTRY (WOMEN)**

Units: 3.0 - (No prerequisite. ATHL 123P recommended) This course may be taken two times.

A cross country course designed to develop the knowledge, skills and strategy for the serious and recreational competitive athlete in collegiate long distance running. The course is designed to emphasize competition and will help the athlete achieve a higher level of competitive ability through instruction of skills, techniques, strategy and personal evaluation during or after competition. The students will be given an opportunity to compete at a wide range of competitive levels. CSU, UC.

**ATHL 123P PREPARATION FOR INTERCOLLEGIATE WOMEN'S CROSS COUNTRY**

Units: 0.5-1.0 - (No prerequisite. Grade option) This course may be taken two times.

This Women's Cross Country course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

**ATHL 124 VARSITY FOOTBALL**

Units: 3.0 - (No prerequisite. ATHL 124P recommended) This course may be taken two times.

Students will learn the intermediate/advanced skills, rules, and strategies for competition in football. CSU, UC (UC maximum credit allowed: 4 units)

**ATHL 124P PREPARATION FOR INTERCOLLEGIATE FOOTBALL**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken two times.

This Football course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

**ATHL 125 VARSITY GOLF (MEN)**

Units: 3.0 - (No prerequisite. ATHL 125P recommended) This course may be taken two times.

Students will learn the intermediate/advanced skills, rules, and strategies for competition in golf. CSU, UC (UC maximum credit allowed: 4 units)

**ATHL 125P PREPARATION FOR INTERCOLLEGIATE GOLF**

Units: 0.5-1.0 - (No prerequisite) This course may be taken two times.

This Golf course is designed to satisfy the interest, development and needs of the highly skilled student

athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

**ATHL 126 VARSITY SOCCER (WOMEN)**

Units: 3.0 – (No prerequisite. ATHL 126P recommended) This course may be taken two times.

Students will learn the intermediate/advanced skills, rules, and strategies for competition in soccer. CSU, UC (UC maximum credit allowed: 4 units)

**ATHL 126P PREPARATION FOR INTERCOLLEGIATE WOMEN'S SOCCER**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken two times.

This Women's Soccer course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (UC pending approval).

**ATHL 127 VARSITY SOFTBALL**

Units: 3.0 - (No prerequisite. ATHL 127P recommended) This course may be taken two times.

Students will learn the intermediate/advanced skills, rules, and strategies for competition in softball. CSU, UC (UC maximum credit allowed: 4 units)

**ATHL 127P PREPARATION FOR INTERCOLLEGIATE WOMEN'S SOFTBALL**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken two times.

This Women's Softball course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

**ATHL 128 VARSITY TENNIS (WOMEN)**

Units: 3.0 - (No prerequisite. ATHL 128P recommended) This course may be taken two times.

Students will learn the intermediate/advanced skills, rules, and strategies for competition in tennis. CSU, UC (UC maximum credit allowed: 4 units)

**ATHL 128P PREPARATION FOR INTERCOLLEGIATE WOMEN'S TENNIS**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken two times.

This Women's Tennis course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

**ATHL 129 VARSITY TENNIS (MEN)**

Units: 3.0 - (No prerequisite. ATHL 129P recommended) This course may be taken two times.

Students will learn the intermediate/advanced skills, rules, and strategies for competition in tennis. CSU, UC (UC maximum credit allowed: 4 units)

**ATHL 129P PREPARATION FOR INTERCOLLEGIATE MEN'S TENNIS**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken two times.

This Men's Tennis course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

**ATHL 130 VARSITY VOLLEYBALL**

Units: 3.0 - (No prerequisite. ATHL 130P recommended) This course may be taken two times.

Students will learn the intermediate/advanced skills, rules, and strategies for competition in volleyball. CSU, UC (UC maximum credit allowed: 4 units)

**ATHL 130P PREPARATION FOR INTERCOLLEGIATE VOLLEYBALL**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken two times.

This Volleyball course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

**ATHL 132 VARSITY WRESTLING (MEN)**

Units: 3.0 - (No prerequisite. Experience in high school or club level competition recommended.) This course may be taken two times.

A wrestling course designed to develop the knowledge, wrestling skills and strategy for the serious and recreational competitive athlete in collegiate, Greco-Roman and Freestyle wrestling. The course is designed to emphasize competition and will help the athlete achieve a higher level of competitive ability through instruction of skills, techniques, strategy, and personal evaluation during or after competition. The students will

be given an opportunity to compete at a wide range of competitive levels. Recommended preparation: CSU, UC credit pending (UC maximum credit allowed: 4 units)

### **ATHL 132P PREPARATION FOR INTERCOLLEGIATE WRESTLING**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken four times.

This Wrestling course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

### **ATHL 133 MEN'S CROSS COUNTRY**

Units: 3.0 - (No prerequisite) This course may be taken four times.

A cross country course designed to develop the knowledge, skills and strategy for the serious and recreational competitive athlete in collegiate long distance running. The course is designed to emphasize competition and will help the athlete achieve a higher level of competitive ability through instruction of skills, techniques, strategy and personal evaluation during or after competition. Students will be given an opportunity to compete. CSU, UC.

### **ATHL 133P PREPARATION FOR INTERCOLLEGIATE MEN'S CROSS COUNTRY**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken four times.

This Men's Cross Country course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

### **ATHL 134 TRACK AND FIELD (WOMEN)**

Units: 3.0 - (No prerequisite. ATHL 134P recommended) This course may be taken two times.

Students will demonstrate knowledge of rules, meet organizations, proper mechanics of running, strategies necessary for competition in collegiate track and selected field events. Students must demonstrate a desire to learn, train, accept challenges, and excel in collegiate track and field. CSU, UC (UC maximum credit allowed: 4 units)

### **ATHL 134P PREPARATION FOR INTERCOLLEGIATE WOMEN'S TRACK AND FIELD**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken two times.

This Women's Track and Field course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

### **ATHL 135 TRACK AND FIELD (MEN)**

Units: 3.0 - (No prerequisite. ATHL 135P recommended) This course may be taken two times.

Students will demonstrate knowledge of rules, meet organization, proper mechanics of running, strategies necessary for competition in collegiate track and selected field events. Students must demonstrate a desire to learn, train, accept challenges, and excel in collegiate track and field. CSU, UC (UC maximum credit allowed: 4 units)

### **ATHL 135P PREPARATION FOR INTERCOLLEGIATE MEN'S TRACK AND FIELD**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken two times.

This Men's Track and Field course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

### **ATHL 140 VARSITY SOCCER (MEN)**

Units: 3.0 - (No prerequisite. ATHL 140P recommended) This course may be taken two times.

Students will demonstrate knowledge of rules, intermediate/advanced skills, and offensive and defensive strategies necessary to compete at collegiate level for soccer. CSU, UC.

### **ATHL 140P PREPARATION FOR INTERCOLLEGIATE MEN'S SOCCER**

Units: 0.5-1.0 - (No prerequisite. Grade Option) This course may be taken two times.

This Men's Soccer course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU

### **ATHL 143 SPORTS PERFORMANCE TRAINING**

Units: 1.0 - (No prerequisite. Grade Option) CSU. This course may be taken four times.

Sports performance training provides basic plyometric techniques which will allow students in athletics to dramatically increase their speed, strength, and



stamina. Students will learn to use this training as preparation for athletic performance and winning mindsets.

## AUTOMOTIVE TECHNOLOGY

### Mission Statement

It is the mission of the Automotive Department of Victor Valley Community College to provide quality automotive instruction to a diverse community of students; the array of courses offered shall serve the educational needs of the beginning student as well as the employed professional. Through industry input the department shall strive to create and maintain the most up to date curriculum based on current industry trends. The department will acquire and maintain the appropriate equipment that will augment the current course curriculum.

Each year the Bureau of Labor Statistics lists the need for Automotive Technicians as one of the nation's highest. This shortage of well-trained technicians has been created by the technological advances caused by the addition of the computerized engine controls and the need to control automotive pollution.

VVC's automotive program is designed to give the student a thorough and complete knowledge of the basics of the modern automobile. The program is capable of training the student to entry-level performance on the latest industry approved equipment.

### Career Opportunities

Federally recognized ASE certification in eight (8) categories  
 Parts Salesperson  
 Repair Shop Owner or Operator  
 State Certified Pollution Control Technician  
 Tune-up Technician

### Faculty

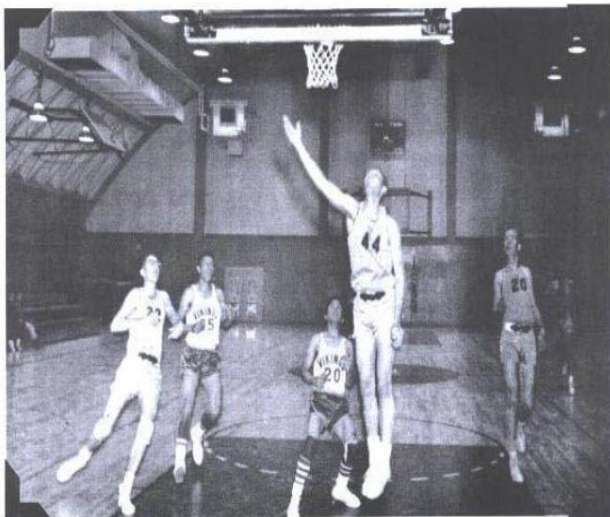
#### **Full time**

Lee Bennett  
 Dan Rowland  
 John Sweet

### Degrees and Certificates Awarded

Associate in Science, Automotive Technology  
 Automotive Brake and Suspension Specialist Certificate  
 Automotive Drivability Specialist Certificate  
 Automotive Inspection and Maintenance Technician Certificate  
 Automotive Repair Shop Manager Certificate  
 Automotive Specialist I Certificate  
 Automotive Specialist II Certificate  
 Automotive Technician Certificate  
 Automotive Transmission Specialist Certificate  
 Automotive Window Tinting Technician Certificate  
 Basic Inspection Area Smog Certificate  
 Collision Repair Technician Certificate  
 Engine Machinist Specialist Certificate  
 Enhanced Inspection Area Smog Technician Certificate  
 Heavy Duty Diesel Truck Lubrication and Inspection Specialist Certificate  
 Heavy Duty Truck Brake Repair Specialist Certificate

VVC Basketball Team



Motorcycle Technician Repair Certificate  
 Recreational Vehicle Service and Repair Technician Certificate  
 Small Engine Repair Specialist Certificate

**Certificate Programs**

**AUTOMOTIVE BRAKE AND SUSPENSION SPECIALIST CERTIFICATE**

Units Required: 8.0

*All of the following must be completed with a grade of "B" or better:*

These classes can be taken in any order.

AUTO 60	Automotive Suspension and Alignment	4.0
AUTO 61	Automotive Brakes	4.0

**AUTOMOTIVE DRIVEABILITY SPECIALIST CERTIFICATE**

Units Required: 8.0

*All of the following must be completed with a grade of "B" or better:*

These classes should be taken in the following order.

AUTO 79B	Ignition and Fuel Systems	4.0
AUTO 80A	Automotive Computers, Electronics, and Electrical Systems	4.0

**AUTOMOTIVE INSPECTION AND MAINTENANCE TECHNICIAN CERTIFICATE**

Units Required: 6.0

*All of the following must be completed with a grade of "B" or better:*

These classes can be taken in any order.

AUTO 79A	Basic Tune Up	2.0
AUTO 58	Automotive Lubrication Technician	2.0
AUTO 59	Automotive Tire Technician	2.0

**AUTOMOTIVE REPAIR SHOP MANAGER CERTIFICATE**

Units Required: 11.0

*All of the following must be completed with a grade of "B" or better:*

These classes should be taken in the following order.

AUTO 50	Introduction to Automotive Technology	4.0
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AUTO 77.0	Automotive Service Writer and Shop Management or concurrently with AUTO 50	2.0
AUTO 77L*	Automotive Service Writer and Shop Management Lab (2 times) or concurrently with AUTO 77	4.0
BET101	Beginning Keyboarding/Typing can be taken anytime during the program	1.0

\*Note: AUTO 77L must be completed two times

**AUTOMOTIVE SPECIALIST I CERTIFICATE (ENGINE REPAIR, DRIVE TRAIN, CHASSIS)**

Units Required: 24.0 units minimum

The certificate program in Engine Repair, Drive Train and Chassis will enable the student to obtain employment in any entry-level position in those related fields.

*All of the following must be completed with a grade of "B" or better:*

These classes can be taken in any order.

AUTO 51	Automotive Engines and Drive Trains	12.0
AUTO 57	Brakes, Wheel Alignment, and Suspension	12.0

**AUTOMOTIVE SPECIALIST II CERTIFICATE (ENGINE PERFORMANCE, ELECTRONICS [AUTO] POLLUTION CONTROL)**

Units Required: 24.0

The certificate program in Engine Performance, Electronics [Auto], and Pollution Control will enable the student to obtain employment in any entry-level position in those related fields.

*All of the following must be completed with a grade of "B" or better:*

These classes should be taken in the following order:

AUTO 79	Tune-up, Pollution Control, and Fuel Systems	12.0
AUTO 80	Automotive Computers, Electronics, and Electrical Systems	12.0

**AUTOMOTIVE TECHNICIAN CERTIFICATE (ENGINE PERFORMANCE, ENGINE REPAIR, ELECTRONICS [AUTO], DRIVE TRAIN, POLLUTION CONTROL, CHASSIS)**

Units Required: 48.0

All of the following must be completed with a grade of "B" or better:

This certificate is obtained upon successful completion of Automotive Specialist I and II and provides the student excellent entry-level skills in a wide range of automotive repair fields.

**(Successful completion of Specialist I and II)**  
All of the following must be completed:

These classes should be taken in the following order:

AUTO 51	Automotive Engines and Drive Trains	12.0
AUTO 57	Brakes, Wheel Alignment, and Suspension	12.0
AUTO 79	Tune-up, Pollution Control, and Fuel Systems	12.0
AUTO 80	Automotive Computers, Electronics, and Electrical Systems	12.0

**AUTOMOTIVE TRANSMISSION SPECIALIST CERTIFICATE**

Units Required: 12.0

All of the following must be completed with a grade of "B" or better:

These classes should be taken in the following order:

AUTO 55	Standard Transmission Overhaul	5.0
AUTO 56A	Electronic Computer Transmission Controls	2.0
AUTO 56	Automatic Transmission Overhaul	5.0

**AUTOMOTIVE WINDOW TINTING TECHNICIAN CERTIFICATE**

Units Required: 8.0

All of the following must be completed with a grade of "B" or better:

These classes should be taken in the following order:

AUTO 94A	Automotive Window Tinting I	4.0
AUTO 94B	Automotive Window Tinting II	4.0

**BASIC INSPECTION AREA SMOG TECHNICIAN CERTIFICATE**

Units Required: 16.0

All of the following must be completed with a grade of "B" or better:

These classes can be taken in any order:

AUTO 80	Automotive Computers, Electronics, and Electrical Systems	12.0
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AUTO 83D	Basic Area California Clean Air Car Course	4.0
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**COLLISION REPAIR TECHNICIAN CERTIFICATE**

Units Required: 14.0

All of the following must be completed with a grade of "B" or better:

These classes should be taken in the following order:

AUTO 91A	Auto Body Repair I	4.0
AUTO 91B	Auto Body Repair II	5.0
AUTO 92	Auto body Damage Estimating I	1.0
AUTO 91L*	Automotive Auto Body Laboratory	2.0
WELD 58A	Gas Metal Arc Welding any time after AUTO 91A	2.0

\*Note: AUTO 91L must be completed two times.

**ENGINE MACHINIST SPECIALIST CERTIFICATE**

Units Required: 12.0

All of the following must be completed with a grade of "B" or better:

These classes should be taken in the following order:

AUTO 52	Cylinder Head Specialist	4.0
AUTO 53	Cylinder Block Specialist	4.0
AUTO 54	Cylinder Assembly Specialist	4.0

**ENHANCED INSPECTION AREA SMOG TECHNICIAN CERTIFICATE**

Units Required: 13.5

All of the following must be completed with a grade of "B" or better:

These classes can be taken in any order:

AUTO 80	Automotive Computers, Electronics and Electrical Systems	12.0
AUTO 84	Advanced California Clean Air Car Course	1.5

**HEAVY DUTY DIESEL TRUCK LUBRICATION AND INSPECTION SPECIALIST CERTIFICATE**

Units Required: 4.0

All of the following must be completed with a grade of "B" or better:

AUTO 65	Heavy Duty Diesel Truck Lubrication and Inspection Technician	4.0
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**HEAVY DUTY TRUCK BRAKE REPAIR SPECIALIST CERTIFICATE**

Units Required: 10.0

*All of the following must be completed with a grade of "B" or better:*

AUTO 67	Heavy Duty Truck Air Brakes	4.0
AUTO 68	Heavy Duty Truck Hydraulic	6.0

**IMPORT SPORT TUNING AND CUSTOMIZATION CERTIFICATE**

Units Required: 16.0

*All of the following must be completed with a grade of "B" or better:*

AUTO 86.1	Import Sport Tuning Engine Performance	4.0
AUTO 86.2	Import Suspension Sport Tuning	4.0
AUTO 86.4	Aftermarket Electrical Accessories	4.0
AUTO 86.5	Import Body Customizing	4.0

**MOTORCYCLE REPAIR TECHNICIAN CERTIFICATE**

Units Required: 16.0

*All of the following must be completed with a grade of "B" or better:*

These classes should be taken in the following order:

AUTO 71	Motorcycle Engine Repair	4.0
AUTO 73	Motorcycle Tune Up and Maintenance	4.0
AUTO 75	Motorcycle Electrical and Ignition System Repair	4.0
AUTO 74	Motorcycle Fuel and Emission System Repair	4.0

**RECREATIONAL VEHICLE SERVICE AND REPAIR TECHNICIAN CERTIFICATE**

Units Required: 17.0

*All of the following must be completed with a grade of "B" or better:*

These classes should be taken in the following order:

AUTO 91A	Auto Body Repair I	4.0
AUTO 85B	Automotive Electrical/Electronic Systems	1.0
CTMF 126A	Woodworking any time after AUTO 91A	3.0
CT 122A	Heating and Air Conditioning any time after AUTO 91A	4.0
CTMT 122	Electrical Repair	3.0
WELD 50	Introduction to Welding any time after AUTO 91A	2.0

**SMALL ENGINE REPAIR SPECIALIST CERTIFICATE**

Units Required: 3.0

*All of the following must be completed with a grade of "B" or better:*

AUTO 70	Small Engine Repair	3.0
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**Associate Degree**

To earn an Associate in Science degree with a major in Automotive Technology, complete a minimum of 18 units from any of the above certificates or from any Automotive Technology courses and meet all Victor Valley College graduation requirements. AUTO 138 (Cooperative Education) may be used as Elective credit, but may not be used to fulfill major requirements.

**Transfer**

Not a transfer major.

**AUTOMOTIVE COURSES**

**AUTO 50 INTRODUCTION TO AUTOMOTIVE TECHNOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with a basic knowledge of automotive systems and components. Information covered will serve as a foundation and prerequisite for advanced automotive classes. Topics covered will include safety, tool and shop equipment uses, industry practices, technician certification, theory and design of the major automotive systems.

**AUTO 50.1 EVOLUTION OF THE AUTOMOBILE**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade Option)

This course will explore changes to the automobile relating to design, power plants, creature comforts, and environmental impact. Material covered will include changes each decade and how these were influenced.

**AUTO 50.2 AMERICAN CAR CULTURE**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

Ever since the car was invented Americans have had a love affair with their cars as well as where the cars take us. This course investigates road side attractions, automotive trends, diners, gas stations and Route 66.

**AUTO 50.5 BASIC AUTOMOTIVE SERVICE AND MAINTENANCE**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

This course covers the basic functions of all the automotive systems as well as key parts of the entire automotive industry. Topics covered will include minor preventive maintenance procedures.

### **AUTO 51 AUTOMOTIVE ENGINES AND DRIVE TRAINS**

Units: 12.0 - 128-144 hours lecture and 192-216 hours laboratory. (Prerequisite: AUTO 50 with a minimum grade of "C")

This course covers techniques used by the Automotive Industry to diagnose and repair engine and drive train malfunctions, cylinder head, cylinder block, and drive train systems. Instruction will cover the diagnosis and repair of engine and drive train systems, cylinder heads, cylinder blocks, rotating assemblies, and basic drive train as they apply to the automobile.

### **AUTO 51A ENGINE REPAIR**

Units: 6.0 - 72-81 hours lecture and 72-81 hours laboratory. (Prerequisite: AUTO 50 with a minimum grade of "C" or equivalent experience.)

This course provides the student with the knowledge necessary to diagnose and repair engines. Information covered will include diagnosis and repair of cylinder head and valve train, engine block, lubrication, cooling systems and general engine assembly.

### **AUTO 52.0 AUTOMOTIVE CYLINDER HEAD MACHINIST**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: AUTO 51 or equivalent)

This course covers diagnosis and repair of cylinder heads and their components.

### **AUTO 53.0 AUTOMOTIVE MACHINIST/CYLINDER BLOCKSPECIALIST**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Recommended preparation: AUTO 51 or equivalent.)

This course covers diagnosis and repair of the components of cylinder block; cylinder bores, oil galley, crank shaft bores, and camshaft bores. Related parts will be disassembled inspected and determination made of the serviceability of existing parts.

### **AUTO 54.0 AUTOMOTIVE MACHINIST/ENGINE ASSEMBLY SPECIALIST**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Recommended preparation: AUTO 51 or equivalent)

This course covers the inspection and reassembly of an engine assembly. Operations include valve timing component installation and verification, inspection and mounting of cylinder heads on the cylinder block, all peripheral engine components (water pump, fuel pump, intake manifold, exhaust manifold, fuel system, ignition system), and initial setup and test run.

### **AUTO 55.0 AUTOMOTIVE STANDARD TRANSMISSION AND DIFFERENTIAL OVERHAUL**

Units: 5.0 -72-81 hours lecture and 72-81 hours laboratory. (No prerequisite.)

This course covers diagnosis and repair of the components of standard transmission systems, and differential systems, gears, synchronizers, bearings, clutches, and electronic controls. Standard transmissions and related parts will be disassembled, inspected and determination made of the serviceability of existing parts. The need for replacement parts will be established as the components are disassembled, inspected and reassembled.

### **AUTO 56.0 AUTOMATIC TRANSMISSION OVERHAUL**

Units: 5.0 - 48-54 hours lecture and 96-108 hours laboratory. (No prerequisite. Recommended preparation: AUTO 51)

This course covers diagnosis and repair of the components of automatic transmission systems: clutches, bands, servo valve bodies, hydraulic pumps, cases, governors, torque converters, and electronic controls. Automatic transmissions and related parts will be disassembled, inspected and determination made of the serviceability of existing parts. The need for replacement parts will be established as the components are disassembled, inspected and reassembled.

### **AUTO 56A TRANSMISSION COMPUTER SYSTEMS**

Units: 2.0 - 24-27 hours of lecture and 24-27 hours laboratory. (Prerequisite: AUTO 56 with a minimum grade of "C".)

This course covers techniques used by the automotive industry to diagnose and repair transmission computer systems. Instruction will cover the diagnosis and repair of runability problems relating to electronic malfunctions of the computer controlled transmission.

### **AUTO 57.0 AUTOMOTIVE BRAKES, SUSPENSION, AND WHEEL ALIGNMENT**

Units: 12.0 - 128-144 hours lecture and 216-243 hours laboratory. (Prerequisite: AUTO 50 with a minimum grade of "C".)

This course covers diagnosis and repair and maintenance of the brake and suspension systems; drum and disc brakes, brake hydraulics, power assist units, front and rear suspension systems, shocks and struts, steering linkages and power steering systems. All aspects of alignments will be covered including two and four wheel and struts on different alignment apparatuses. Maintenance of all parts of the brake and suspension systems will be covered.

#### **AUTO 57.1 AUTOMOTIVE BRAKES, THEORY AND FUNCTION**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

This course covers safety practices, theory, applications, braking systems, and antilock brakes.

#### **AUTO 58 AUTOMOTIVE LUBRICATION TECHNICIAN**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. (No prerequisite)

This course covers techniques used by the Automotive Industry to perform routine preventative maintenance. Instruction will cover changing automotive fluids, lubrication, safety inspections, installing filters and ignition components.

#### **AUTO 59.0 AUTOMOTIVE TIRE TECHNICIAN**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. (No prerequisite)

This course covers techniques used by the Automotive Industry to perform duties of a tire technician. Instruction will cover brake and suspension inspections, mounting, balancing, and repairing tires.

#### **AUTO 60 AUTOMOTIVE SUSPENSION AND ALIGNMENT**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite).

This course covers diagnosis and repair of the components of automotive suspension system. All related parts of the suspension and steering are inspected and determination of serviceability is made. Alignment of the front and rear of the vehicles will be covered, both manual and computer alignment.

#### **AUTO 61.0 AUTOMOTIVE BRAKES**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Recommended preparation: AUTO 57.)

This course covers diagnosis and repair of the components of automotive brake systems: basic hydraulics, drum brakes, disc brakes, turning drums and rotors, and related parts will be disassembled, inspected

and determination made of the serviceability of existing parts. The need for replacement parts will be established as the components are disassembled inspected and reassembled.

#### **AUTO 62 AUTOMOTIVE DETAILING**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. (No Prerequisite)

This course provides students with the knowledge and skills necessary to correctly perform an automotive detail. Topics covered will include exterior paint polishing and treatment, interior and upholstery cleaning techniques, proper chemical and equipment usage, and dealership porter responsibilities.

#### **AUTO 63.0 INTRODUCTION TO DIESEL ENGINE REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: AUTO 50)

This course covers the techniques used by the Automotive and Medium Truck industries to diagnose and repair compression pressure combustion designed, four stroke, diesel fueled engines. Instruction will cover diesel engine design and operation, diesel fuel systems, air induction systems, heavy duty electrical, and introduction to electronic fuel control.

#### **AUTO 63A ADVANCED DIESEL ENGINE REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: AUTO 63.0)

This course covers the techniques used by heavy duty truck industries to diagnose and repair compression pressure combustion designed, four stroke and two stroke diesel fueled engines. Instruction will cover diesel engine design and operation, diesel fuel systems, air induction systems, heavy duty electrical, and introduction to electronic fuel control with emphasis on engine overhaul.

#### **AUTO 63.5 INTRODUCTION TO DIESEL TECHNOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with a basic knowledge of diesel systems and components. Information covered will serve as a foundation and prerequisite for advanced diesel classes. Topics covered will include safety, tool and shop equipment uses, industry practices, technician certification, theory and design of the major diesel systems.

**AUTO 64.0 MEDIUM/HEAVY DUTY TRUCK  
SUSPENSION AND STEERING**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course will provide students with the knowledge and techniques used by the trucking industry to diagnose, adjust, and repair medium/heavy duty truck suspension and steering systems. Instruction will cover theory, inspection, maintenance, and repair of suspension and steering systems.

**AUTO 65.0 HEAVY DUTY DIESEL TRUCK  
LUBRICATION AND INSPECTION TECHNICIAN**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course covers the techniques used by the trucking industry to perform routine preventative maintenance on heavy duty diesel trucks. Instruction will cover changing fluids, lubrication, safety inspections, and installing filters.

**AUTO 65.2 FUNDAMENTALS OF HEAVY DUTY  
TRUCK AND OFF HIGHWAY EQUIPMENT  
HYDRAULICS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option)

Topics covered include introduction to hydraulic systems components and theory of operation, entry level skills to disassemble, inspect, reassemble and test hydraulic components and understand the relationship between component failure and system operation.

**AUTO 65.3 ADVANCED HEAVY DUTY TRUCK AND  
OFF HIGHWAY EQUIPMENT HYDRAULICS**

Units: 6.0 - 64-72 hours lecture and 96-108 hours laboratory. (Prerequisite: AUTO 65.2. Grade Option)

This course covers advanced hydraulic systems components and theory of operation, entry level skills to disassemble, inspect, reassemble and test hydraulic components and understand the relationship between component failure and system operation, hydrostatic motors, pumps, valves, and inspection and repair.

**AUTO 65.4 SERVICE AND REPAIR MOBILE  
HYDRAULICS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option)

This course covers inspection and repair of mobile hydraulic systems, theory of operation, entry level skills to disassemble, inspect, reassemble and test mobile hydraulic components, and the relationship between component failure and system operating hydrostatic motors, pumps, and valves.

**AUTO 65.5 FUNDAMENTALS OF HEAVY  
EQUIPMENT SYSTEMS REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

Introduction to services and repair of off road dirt moving heavy equipment and agricultural equipment. Designed to meet the needs of off road heavy equipment technicians.

**AUTO 65.6 ADVANCED HEAVY EQUIPMENT  
SYSTEMS REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

Advance service and repair of off road dirt moving heavy equipment and agricultural equipment. Designed to meet the needs of off road heavy equipment technicians.

**AUTO 65.9 FORKLIFT PREVENTATIVE  
MAINTENANCE AND REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course covers techniques used by the warehousing industry to perform routine preventative maintenance and repairs on forklifts. Instruction will cover changing fluids, lubrication, preventive maintenance safety inspections.

**AUTO 67.0 HEAVY DUTY TRUCK AIR BRAKES**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course covers the techniques used by the trucking industry to diagnose and repair heavy duty truck air brake systems. Instruction will cover theory, inspection, maintenance, and repair of air brake systems.

**AUTO 68.0 HEAVY DUTY TRUCK HYDRAULIC  
BRAKES**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course covers the techniques used by the trucking industry to diagnose and repair heavy duty truck hydraulic brake systems. Instruction will cover theory, inspection, maintenance, and repair of hydraulic brake systems.

**AUTO 70.0 SMALL ENGINE REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This class covers the fundamentals of small internal combustion engines and their uses in various forms of equipment and light vehicles. Topics covered will include, but not limited to, theory of small internal

combustion engines, troubleshooting, repair and small engine applications.

#### **AUTO 71.0 MOTORCYCLE ENGINE REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge necessary to diagnose and repair motorcycle engines/transmissions. Information covered will include engine diagnosis, disassembly and inspection, valve reconditioning, bearing replacement, piston and ring service, and engine reassembly.

#### **AUTO 72L MOTORCYCLE LABORATORY**

Units: 1.0 - 48-54 hours laboratory. (No prerequisite)  
This course may be taken four times.

A laboratory class to develop skills in motorcycle engine repair, tune up, and general maintenance procedures.

#### **AUTO 73.0 MOTORCYCLE SERVICE TUNE UP AND MAINTENANCE**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge necessary to perform motorcycle tune up and maintenance. Information covered will include chassis and suspension systems, servicing schedules and procedures, tire care, tune up schedules and procedures, wheel balancing, truing and balancing, brake systems, clutch systems, drive systems, general shop procedures and service writing.

#### **AUTO 74.0 MOTORCYCLE FUEL AND EMISSION SYSTEMS REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge necessary to diagnose and repair motorcycle fuel and emission systems. Information covered will include a study of carburetor types, construction and operating principles, fuel injection principles, supercharging and turbocharging principles, two and four stroke motorcycle exhaust principles, motorcycle emission control principles, diagnosis and repair, fuel and emission system performance analysis.

#### **AUTO 75.0 MOTORCYCLE ELECTRICAL AND IGNITION SYSTEMS REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge necessary to diagnose and repair motorcycle ignition

and electrical systems. Information covered will include electrical theory; motorcycle electrical circuitry and wiring schematics; electrical component identification, diagnosis and repair; motorcycle ignition systems identification, diagnosis and repair; ignition system performance analysis.

#### **AUTO 77 AUTOMOTIVE SERVICE WRITING AND SHOP MANAGER**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course prepares students to manage an automotive repair shop. Topics covered include work order preparation, parts and labor estimating, parts ordering, office and shop organization, writing a legal work order, sales skills, and customer relations.

#### **AUTO 77.1 AUTOMOTIVE LEADERSHIP AND TEAM BUILDING**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade Option)

This course provides the student with the knowledge necessary to successfully build a functional automotive team and be an effective automotive team leader. Topics covered will include automotive industry team development, recruitment and retention of team members. The course will also cover automotive industry motivation and compensation and the creation and maintenance of employee policies and procedures handbooks.

#### **AUTO 77.2 AUTOMOTIVE SAFETY TRAINING FOR MANAGERS**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course provides the student with the knowledge necessary to initiate and maintain an effective automotive safety training program in an automotive repair facility. Topics covered will include employee "Right to Know" laws and training requirements, safety audits and facility assessment, hazardous communications guidelines, personal protective equipment, and material handling and storage.

#### **AUTO 77L AUTOMOTIVE SERVICE WRITING AND SHOP MANAGER LABORATORY**

Units: 2.0 - 96-108 hours laboratory. (No Prerequisite)

This course prepares students to effectively write automotive service orders and manage an automotive repair shop. Topics covered include labor guide look up and labor calculation, work order preparation, parts and labor estimating, parts ordering, office and shop organization, writing a legal work order, sales skills, and customer relations.



**AUTO 78.0 AUTO PARTS SPECIALIST**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course prepares students to perform the duties of a counterperson in an auto parts store. Topics covered will include automotive assemblies, systems and basic parts. Course includes instruction in customer service, telephone technique, sales, merchandising, and cash drawer management.

**AUTO 79.0 AUTOMOTIVE TUNE-UP, EMISSION CONTROL, AND FUEL SYSTEM**

Units: 12.0 - 128-144 hours lecture and 192-216 hours laboratory. (No prerequisite)

This course covers techniques used by the automotive industry to diagnose and repair ignition systems, fuel systems, and emission control systems. Instruction will cover the diagnosis and repair of conventional and electronic ignition systems, conventional and feedback carburetors, fuel injection, and emission control devices.

**AUTO 79A BASIC TUNE-UP**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. (No prerequisite)

This course covers techniques used by the Automotive Industry to diagnose and repair fuel and ignition systems. Topics will cover the diagnosis and repair of conventional and electronic ignition systems, fuel systems, and introduction to automotive computers.

**AUTO 79B TROUBLE SHOOTING AND REPAIR OF IGNITION AND FUEL SYSTEMS**

Units: 4.0 - (No prerequisite) 48-54 hours lecture and 48-54 hours laboratory.

This course covers techniques used by the automotive industry to diagnose and repair ignition systems and fuel systems. Topics covered included the diagnosis and repair of conventional and electronic ignition systems, conventional and feedback carburetors, along with emission control devices.

**AUTO 80.0 AUTOMOTIVE COMPUTERS, ELECTRONICS AND ELECTRICAL SYSTEMS**

Units: 12.0 - 128-144 hours lecture and 192-216 hours laboratory.

This course covers techniques used by the automotive industry to diagnose and repair electrical malfunctions, computer, fuel injection, and electronic ignition systems. Instruction will cover the diagnosis and repair of electronic ignition systems, alternators, starters, computers, and basic electrical and electronic concepts as they apply to the automobile.

**AUTO 80.6 INTRODUCTION TO AUTOMOTIVE ELECTRICITY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade Option.)

This course covers electrical theory, basic electricity, electrical safety procedures, electrical diagnostic equipment, and industry approved procedures to diagnose and repair electrical malfunctions in the automobile.

**AUTO 80A AUTOMOTIVE COMPUTERS, ELECTRONICS, AND ELECTRICAL SYSTEMS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course covers techniques used by the automotive industry to diagnose and repair computer and fuel injection systems. Topics covered include the diagnosis and repair of electronic ignition systems, alternators and starters. Basic electrical and electronic concepts as they apply to the automobile.

**AUTO 82.0 AUTOMOTIVE ELECTRICAL REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge necessary to diagnose and repair automotive malfunctions including lighting systems, electrical instruments and accessories, electrical door components, air bags, and alarm systems. Information covered will include electrical fundamentals, test equipment, electrical circuits, electrical malfunctions, wiring diagrams, and electrical diagnosis.

**AUTO 82.1 NEW MODEL TECHNOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

This course is designed to keep technicians current with the latest technical changes and new features for late model vehicles on the road today. It is important to have current information and training in order to correctly diagnose and repair newer vehicles. Topics will cover updated information on computers, accessories, safety, emissions, alternative fuel, and hybrid vehicles. Basic vehicle systems knowledge is recommended for this course.

**AUTO 83D BASIC AREA CALIFORNIA CLEAN AIR CAR COURSE**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This Bureau of Automotive Repair (BAR) Course

provides the student with the knowledge necessary to perform a smog inspection in a basic inspection area according to BAR guidelines, generic On Board Diagnostic II (OBD II) systems. Information covered will include preconditioning procedures, proper use of smog test equipment, current laws and regulations, consumer waiver and extension procedures, generic OBD II information, BAR required update courses. This class satisfies the BAR requirement for the Basic Area California Clean Air Car Course.

#### **AUTO 84.0 ENHANCED AREA CALIFORNIA CLEAN AIR CAR COURSE**

Units: 1.5 - 16-18 hours lecture and 24-27 hours laboratory. (No prerequisite)

This course covers information needed to prepare students to take the California State Smog Examination for an enhanced emissions area. Topics covered include the diagnosis and repair for oxides of nitrogen, oxygen sensor evaluation, emission failure diagnostic procedures, and dynamometer safety. This course trains technicians to use BAR '97 loaded mode test equipment and lab scopes. This class combines the BAR Dynamometer Diagnostics Update Class and 8 Hour Dynamometer Safety Class.

#### **AUTO 85.0 ENGINE PERFORMANCE**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. (No prerequisite)

This course provides the student with the knowledge necessary to take a California Alternative Test for Engine Performance. Information covered will include engine testing and diagnosis, fuel management, ignition systems, computer theory and testing. Successful completion of this course satisfies the California Bureau of Automotive Repair's requirements for engine performance.

#### **AUTO 85.1 BASIC ENGINE PERFORMANCE THEORY**

Units: 3.0 - 48-54 hours lecture (No prerequisite)

This course covers engine performance theory and techniques used by the automotive industry to diagnose and repair drive-ability malfunctions.

#### **AUTO 85A ADVANCED ENGINE PERFORMANCE**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. (No prerequisite)

This course is preparation for the Bureau of Automotive Repair California Alternative Test for Advanced Engine Performance. Information covered will include engine testing and diagnosis, fuel management, ignition systems, computer diagnosis and repair. Successful completion of this course satisfies the California Bureau

of Automotive Repairs requirements for advanced engine performance.

#### **AUTO 85A.1 ADVANCED ENGINE PERFORMANCE THEORY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course covers engine performance theory and techniques used by the automotive industry to diagnose and repair electrical malfunctions, computer, fuel injection, and electronic ignition systems.

#### **AUTO 85B AUTOMOTIVE ELECTRICAL AND ELECTRONIC SYSTEMS**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. (No prerequisite)

This course is preparation for the Bureau of Automotive Repair California Alternative Test for Automotive Electrical and Electronic Systems. Information covered will include test equipment, electrical circuits, electrical malfunctions, wiring diagrams, and electrical diagnosis. Successful completion of this course satisfies the California Bureau of Automotive Repairs requirements for automotive electrical/electronic training.

#### **AUTO 86.1 IMPORT SPORT TUNING ENGINE PERFORMANCE**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge to properly install aftermarket engine performance parts while staying in the confines of applicable state and federal laws. Topics discussed will include forced air induction, exhaust systems, computerized fuel and ignition system modifications.

#### **AUTO 86.2 IMPORT SUSPENSION SPORT TUNING**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge to install aftermarket lowering kits, suspension enhancements and alignment procedures for modified suspension systems. Information covered will include suspension geometry, accepted procedures for lowering vehicles, shock absorber choices, tire choices for sport tuned vehicles, and maintenance of modified suspensions.

#### **AUTO 86.3 EXTREME ON AND OFF ROAD SUSPENSION**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge to install aftermarket lift kits, prerunner aftermarket fenders, modify gear ratios, and alignment procedures for modified suspension systems. Information covered will include suspension geometry, lift kit installation, vehicle raising procedures, prerunner aftermarket accessories, tire choices for modified vehicles, and maintenance of modified (raised) suspensions.

#### **AUTO 86.4 AFTERMARKET ELECTRICAL ACCESSORIES**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge to install aftermarket electrical accessories. Information covered will include electrical theory, installation of stereos, amplifiers, sub-woofers, and aftermarket lights.

#### **AUTO 86.5 IMPORT BODY CUSTOMIZING**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge and skills necessary to customize and install aftermarket body parts. Course covers installation and customization of metal, fiberglass and high carbon fiber body parts, wings, spoilers, ground effects, and door direction reversing. This course also covers shaving door handles and installing remote control door release solenoids.

#### **AUTO 86.6 AMERICAN IRON HOT RODS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides the student with the knowledge to properly modify classic domestic vehicles. Topics covered will include engine performance enhancement and suspension modification.

#### **AUTO 89.1 INTRODUCTION TO HYBRID VEHICLE TECHNOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course introduces hybrid vehicle technology. Topics covered will include electrical basics, batteries, types of hybrid vehicles, and preventive maintenance procedures.

#### **AUTO 89.2 HYBRID VEHICLE MAINTENANCE AND SERVICE**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course addresses hybrid vehicle maintenance and service procedures. Topics covered will include safety,

manufacture specific hybrids, diagnostic and repair procedures as they relate to hybrid vehicles.

#### **AUTO 91A AUTO BODY REPAIR I**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. (No prerequisite) This course may be taken four times.

Basic auto body repair and refinishing techniques to prepare students with entry level skills used by the automotive industry.

#### **AUTO 91B AUTO BODY REPAIR II**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. (No prerequisite.) This course may be taken four times.

This course is designed for the student who has received instruction in basic auto body repair. Topics covered will include structural repair, automotive refinishing, and damage analysis. The course will focus on developing auto body skills in a hands-on environment with emphasis on improving speed and workmanship.

#### **AUTO 91L AUTOMOTIVE BODY LABORATORY**

Units: 1.0 - 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

A laboratory class to develop skills in electrical, auto body and refinishing procedures.

#### **AUTO 92.0 AUTO BODY DAMAGE ESTIMATING I**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. (No prerequisite)

This class covers the basic of auto body damage estimating. Topics covered will include, but not limited to, sheet metal damage, primary and secondary frame and/or unibody damage, painting and blending, repair vs. replacement of components, and two or four wheel alignment needs.

#### **AUTO 95A AUTOMOTIVE LABORATORY**

Units: 1.0 - 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

A laboratory class to develop skills in engine repair, tune up, emissions, electrical, suspension, brakes, and general maintenance procedures.

#### **AUTO 95B AUTOMOTIVE LABORATORY**

Units: 2.0 - 96-108 hours laboratory. (No prerequisite) This course may be taken four times.

A laboratory class to develop skills in engine repair, tune up, emissions, electrical, suspension, brakes, and general maintenance procedures.

**AUTO 97.0 AUTOMOTIVE AIR CONDITIONING AND HEATING SYSTEMS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course covers diagnosis and repair of the components of the automotive air conditioning and heating systems; evaporators, compressors, control valves, condensers, blowers, heater cores, lines and hoses, mechanical and electronic temperature controls. Air conditioning and heating related parts will be disassembled, inspected and determination made of the serviceability of existing parts. The need for replacement parts will be established as the components are reassembled. Recovery and charging of different systems will be covered from both R-12 and R-134A systems.

**AUTO 97.1 AUTOMOTIVE HEATING, VENTILATION, AND AIR CONDITIONING, THEORY AND FUNCTION**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course covers heating, ventilation, and air-conditioning (HVAC) theory, basic electricity, HVAC safety procedures, HVAC diagnostic equipment, and industry approved procedures to diagnose and repair HVAC malfunctions in the automobile.

**AUTO 98 SPECIAL TOPICS**

See Special Topics listing (Variable units).

**AUTO 99 CAR CARE CLINIC**

Units: 1.0 - 1.5 lecture hours, 1.5 laboratory hours per week for nine weeks. (No prerequisite)

This course covers preventative maintenance techniques for the modern automobile. Instruction will cover the scheduling of preventive maintenance procedures, interactions with auto repair shops, vehicle purchasing techniques, theory and operation of the engine, drive train, suspension, cooling system, brake and lighting system.

**AUTO 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU



**AVIATION**

Aviation Technology training is offered locally at Southern California Logistics Airport (SCLA) by the Victor Valley Aviation Education Consortium. This program includes all classroom and practical training required to prepare for the Federal Aviation Administration (FAA) licensing exams for Airframe and Powerplant Technicians. The program includes three courses:

- General Aviation;
- Aviation – Powerplant; and
- Aviation – Airframe.

For more information about this program including registration for the next class session, contact Jim Worsham at 760.243.1905 or visit:

[http://www.victorvillecity.com/HP/SCLA\\_School\\_of\\_Aviation\\_Technology.html](http://www.victorvillecity.com/HP/SCLA_School_of_Aviation_Technology.html)

**AVIATION COURSES**

**AVA 51 GENERAL AVIATION I**

Units: 7.0 - 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. Grade Option.)

This course is designed to prepare students for a career in aviation maintenance technology. Topics include math, basic electricity, basic physics, fluid lines and fittings and materials and processes.

**AVA 52 GENERAL AVIATION II**

Units: 7.0 - 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. Grade Option)

This course is designed to prepare students for a career in aviation maintenance technology. Topics include maintenance and ground operations.

**AVA 61 AIRFRAME I**

Units: 7.0 - 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option)

This course is designed to prepare students for a career in aviation maintenance technology. Topics include aircraft materials (wood, metal, nonmetallic), coverings and finishes, aircraft inspection, assembly and rigging and welding.

**AVA 62 AIRFRAME II**

Units: 7.0 - 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option)

This course is designed to prepare students for a career in aviation maintenance technology. Topics include aircraft atmosphere, communication, navigation, fuel, landing gear, hydraulic, and pneumatic power systems.

### **AVA 63 AIRFRAME III**

Units: 7.0 - 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option)

This course is designed to prepare students for a career in aviation maintenance technology. Topics include aircraft electrical systems, positioning and warning systems, ice and rain control systems, and fire protection systems.

### **AVA 71 POWERPLANT I**

Units: 7.0 - 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option)

This course is designed to prepare students for a career in aviation maintenance technology. Topics include reciprocating engines, turbine engines, and engine inspection.

### **AVA 72 POWERPLANT II**

Units: 7.0 - 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option)

This course is designed to prepare students for a career in aviation maintenance technology. Topics include induction and engine airflow systems, engine exhaust and reverser systems, and propellers.

### **AVA 73 POWERPLANT III**

Units: 7.0 -48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option)

This course is designed to prepare students for a career in aviation maintenance technology. Topics include engine instrument systems, engine electrical, ignition and starting systems, and engine fuel systems.



## **BASIC SKILLS**

The Basic Skills program consists of several English and Math courses designed to prepare students for English 6 and Math 10 and to allow more advanced students to review core English and Math skills.

Students enroll in courses that combine lecture and lab, which allow students to receive direct instruction in a classroom setting while practicing their skills at their own pace.

To prepare for English 6, students should enroll in BSKL 1, Reading and Writing One (2 units), and then BSKL 2, Reading and Writing 2 (2 units). Students who place in English 6 or English 50 and are interested in reviewing their grammar skills should enroll in BSKL 5, Beginning English Grammar (2 units).

Students who want to move more gradually towards English 6 should begin with BSKL 1A, Reading and Writing One-A, and then take BSKL 1B, Reading and Writing One-B. They should then take BSKL 2, Reading and Writing Two.

To prepare for Math 10, students should enroll in BSKL 6, Math Operations with Whole Numbers (1 unit); BSKL 7, Math Operations with Rational Numbers (1 unit); and then BSKL 8, Math Operations with Decimals. Students who place in Math 50 and are interested in a review should enroll in BSKL 9, Fractions, Decimals and Percentages (1 unit).

## **BASIC SKILLS COURSES**

### **BSKL 1 READING AND WRITING ONE**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is the first in a series that focuses on reading and writing skills. Students develop their vocabulary base along with grammar and sentence writing skills.

### **BSKL 1A READING AND WRITING ONE A**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is the first half of the first course in a series that focuses on reading and writing skills. Students develop their vocabulary base along with grammar and sentence writing skills.

### **BSKL 1B READING AND WRITING ONE B**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is the second half of the first course in a series that focuses on reading and writing skills. Students develop their vocabulary base along with grammar and sentence writing skills.

### **BSKL 2 READING AND WRITING TWO**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: BSKL 1. Pass/No Pass)

This course is the second in a series that focuses on reading and writing skills. Students develop their reading comprehension and paragraph writing skills.

### **BSKL 2A READING AND WRITING TWO A**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This is a first-half of the second course in a series that further develops reading and writing skills. Students continue to develop their vocabulary base along with grammar and sentence writing skills.

### **BSKL 2B READING AND WRITING TWO B**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This is the second-half of the second course in a series that further develops reading and writing skills. Students continue to develop their vocabulary base along with grammar and sentence writing skills.

### **BSKL 5 BEGINNING ENGLISH GRAMMAR**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass.)

The course covers core concepts in English grammar and includes such topics as subjects and verbs, common usage errors, clauses and phrases and punctuation.

### **BSKL 6 MATH OPERATIONS WITH WHOLE NUMBERS**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite)

This math course will review computations (addition, subtraction, multiplication, division) with whole numbers. The course also introduces translations of verbal problems into mathematical statements and includes instruction in rounding, approximation, and numerical estimation.

### **BSKL 7 MATH OPERATIONS WITH RATIONAL NUMBERS**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: BSKL 6 with a minimum grade of 'C' or equivalent.)

This math course will review computations (addition, subtraction, multiplication, division) with fractions. The course also introduces verbal problems that involve fractions and mixed numbers.

### **BSKL 8 MATH OPERATIONS WITH DECIMALS**

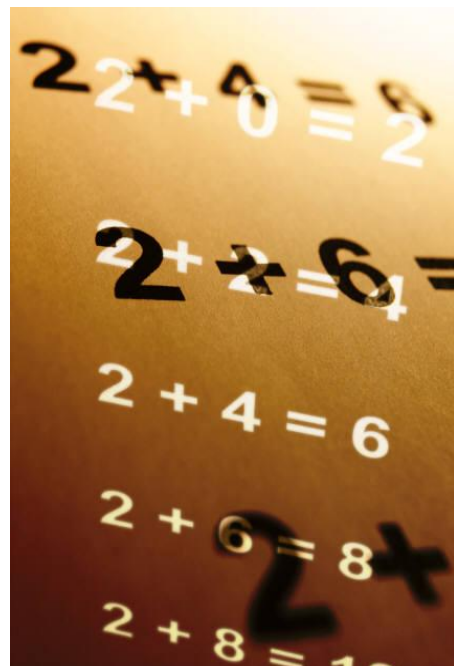
Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: BSKL 6 with a minimum grade of 'C' or equivalent.)

This math course will review computations (addition, subtraction, multiplication, division) with decimals. The course also introduces verbal problems that involve decimals. Percentages, ratios, and proportions are also introduced.

### **BSKL 9 MATH FRACTIONS, DECIMALS, PERCENTAGES**

Units: 1.0 - 48-54 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: BSKL 6 with a minimum grade of 'C' or equivalent. Pass/No Pass)

This math course will review computations with fractions and decimals. The course also introduces verbal problems that involve percentages.



**BIOLOGICAL SCIENCE**

The biological science courses are designed to meet a variety of student requirements. Some courses are designed to fulfill the laboratory general education requirement.

Biology and preprofessional majors will find rigorous, comprehensive classes. Other classes, including non-laboratory, are offered for non-majors and those with special interest areas. A certificate in Biotechnology is also offered.

**Career Opportunities**

(May require advanced degree)  
 Environmental Analyst  
 Forestry  
 Laboratory Technician  
 Range Management

**Faculty**

**Full Time**

David Gibbs  
 Jessica Gibbs  
 Lisa Harvey  
 Hinrich Kaiser  
 Pam MacKay

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts (Math/Science)  
 Associate in Science, Math/Science  
 Certificate in Biotechnology

**Certificate Program**

**CERTIFICATE IN BIOTECHNOLOGY**

Units Required: 16.0

The certificate in Biotechnology is geared towards students interested in gaining entry level jobs in the laboratory, and can apply to the many different areas within the biotechnology industry such as clinical, forensic, or agricultural applications. Students pursuing this certificate will gain a basic biological foundation (BIOL 100 or 107), followed by an overview of the Biotechnology profession (BIOL 70) along with classes instructing technique (BIOL 71) and application of skills.

*Group I - All of the following must be completed:*

BIOL 100	General Biology	4.0
or 107	Introduction to Human Biology	
BIOL 70	Introduction to Biotechnology	5.0
BIOL 71	Introduction to Laboratory Technique	4.0

*Group II - Complete 3.0 units from courses below:*

BIOL 72/ CHEM 72	Biomolecular Science	3.0
BIOL 52	Forensic Entomology	3.0
BIOL 54	Forensic Pathology	3.0

ANTH 53	Forensic Anthropology	3.0
AGNR 122	Plant Propagation	3.0
AGNR 71	GIS in Natural Resources	3.0
BIOL 129	Independent Study in Biology	1.0-3.0
BIOL 98	Projects in Biology	1.0-3.0

**Associate Degree**

No associate degree offered with a major in Biological Science. Biology courses may be used to fulfill requirements for an Associate in Science degree with a major in Math/Science. Biology courses may also be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Math/Science or Liberal Arts for degree requirements for these majors. BIOL 138 (Cooperative Education) may be used as Elective credit but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**  
*Biology major*

■ **University of California, Riverside**  
*Biology major*

**BIOLOGY**

**BIOL 30 MOLECULAR FORENSICS**

Units: 0.5 - This course will not apply to the Associate Degree. 9 hours lecture. (No prerequisite)

This course is designed to meet the need for continuing education and supplemental forensics training for law enforcement personnel and educators. Topics will include the molecular science behind DNA fingerprinting analysis and serology. Emphasis will be on collection, recognition, analysis, and evaluation of these forms of evidence.

**BIOL 31 FORENSIC TAPHONOMY**

Units: 0.5 - This course will not apply to the Associate Degree. 9 hours lecture. (No prerequisite. Grade Option)

Taphonomy is the study of the postmortem process. Taphonomy incorporates the use of entomology, pathology, osteology, odontology, animal behavior and chemistry in order to recover, study and preserve dead organisms. Reconstruction of the biology and/or ecology along with circumstances of death is important in answering questions that pertain to cause, manner and time since death.

**BIOL 52 FORENSIC ENTOMOLOGY**

Units: 3.0 – 48-54 hours lecture. (No prerequisite. Grade Option)

Students will learn some of the various aspects of forensic entomology. Students will learn basic insect morphology and how it applies to the forensic field. This course will also cover the basic forensic collection techniques, laboratory procedures, analysis of the data, and how to write a written case report.

**BIOL 54 FORENSIC PATHOLOGY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course examines the medico-legal investigation of death from accidental causes, suicides, homicides, blunt/sharp force injuries, gunshot wounds, asphyxia and drowning. The course will cover the identification of individuals through dental remains and records, as well as sex, age and race determinations.

**BIOL 70 INTRODUCTION TO BIOTECHNOLOGY**

Units: 5.0 - 48-54 hours lecture and 96-108 hours laboratory. (No prerequisite)

This course is designed to introduce students to concepts of modern molecular biology. The concepts will be applied as students learn general manipulation of phage, plant, and bacterial DNA. Students will learn theory and techniques of PCR, gene cloning, DNA fingerprinting, restriction analysis, immunoblot analysis and library construction/screening.

**BIOL 71 INTRODUCTION TO LABORATORY TECHNIQUE**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

An introduction to laboratory methods for students interested in a career in a laboratory setting. Emphasis will be on basic laboratory methods, the principles that underlie those methods, and the equipment that makes laboratory work possible. Topics will include laboratory safety, quality control, regulatory agencies, and will address problem solving in a laboratory environment.

**BIOL 72 BIOMOLECULAR SCIENCE**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Recommended: BIOL 100 or BIOL 107)

This course is a theoretical approach to laboratory techniques common to modern biotechnical/clinical laboratories. Principles of molecular biology, genetics, metabolism, and immunology will be studied with emphasis on their application to modern analytical methods. Information and Communication technology will be used to develop formal writing and public speaking skills. See cross listing for CHEM 72.

**BIOL 98 A/B COMPARATIVE NATURAL HISTORY STUDIES**

Units: 3.0-4.0 - 16-18 lecture hours plus 96-108 hours laboratory for each unit. (No prerequisite. Grade Option)

This course offers students the opportunity to learn first-hand about plants, animals, ecology, geography, and conservation policies of the trip destination, which is most frequently a foreign country. Pre-trip lectures will include slide shows of organisms you may see and previews of activities and adventures you will experience on the natural history field trip. Trips vary in length from 9 days to 2.5 weeks. Biology majors who wish to participate in a CSU transferable course with more rigorous course requirements and comprehensive biodiversity studies may wish to enroll in BIOL 250A, Ecosystem Field Biology which is offered concurrently.

**BIOL 100 GENERAL BIOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite)

This is an introductory course with emphasis on the scientific method, analysis of scientific data, metric system, current biological problems, cellular biology, genetics and heredity, classification and systematics, evolution, ecology, behavior and environmental issues. The laboratory will include a survey of the morphological characteristics of various organisms on this planet.

**BIOL H100 GENERAL BIOLOGY HONORS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (No prerequisite)

This is an introductory course for honors students emphasizing the scientific method, analysis of scientific data, the use of scientific units, cellular biology, genetics and heredity, classification and systematics, evolution, ecology, environmental issues, and current topics in biology. The laboratory complements the lecture topics via direct experimentation, simulations, and video, including a survey of Earth's biological diversity. Specific topics will be emphasized through the use of reading assignments and the preparation of a short research paper.

**BIOL 104 GENERAL BOTANY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

This botany course is for non-biology majors. Topics include plant anatomy, plant physiology, plant cell structure, photosynthesis, cell respiration, ecology, genetics, systematics, and plant evolution. The course also includes brief introductions to reproduction of flowering plants, mosses, ferns, and conifers; and sections on field botany and plant identification. Emphasis will be placed on use of the scientific method,



critical thinking, and problem solving skills. Up to two field trips may be required.

**BIOL 107 INTRODUCTION TO HUMAN BIOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

An introduction to biological principles with a human perspective. Emphasis on cellular structure and function, organ systems, the concept of homeostasis, adaptation, cellular and population genetics, and the interaction of the human species with the ecosystem.

**BIOL 113 BIOLOGY OF SEXUALLY TRANSMITTED DISEASES**

Units: 2.0 - 32-36 hours lecture. CSU (No prerequisite)

This course will provide an understanding of the history and pathogenesis of the most prominent sexually transmitted diseases. Emphasis will be placed on the biological agent, epidemiology, diagnosis and treatment of the disease. Vaccine development and current treatments will also be examined.

**BIOL 114 INTRODUCTION TO ECOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

The first half of this course covers basic ecological principles about demography and population growth, species interactions and food webs, introduction to photosynthesis and metabolism, and nutrient cycling. The remainder of the course emphasizes environmental problems and how they relate to ecological principles. Topics include global biodiversity and endangered species, water and air pollution, alternate energy sources, alternative agriculture and pesticides, and other topics of local interest. Although this course has no laboratory, some outdoor activities and short-distance field trips during class time may be required.

**BIOL 118 PRINCIPLES OF HEREDITY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A survey of Mendelian inheritance, quantitative traits, and population genetics with special emphasis on human inheritance and family pedigree analysis. Also includes sections on DNA technology, immune genetics and genetics of cancer. This course stresses development of critical thinking and problem solving skills.

**BIOL 120 IDENTIFICATION AND STUDY OF WILDFLOWERS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade Option)

This course employs an evolutionary approach to give students a working knowledge of plant classification, as well as an appreciation for the diversity of the flora of southern California. Students will learn how to use keys to identify local plant species, learn characteristics of the most common plant families, and will be able to describe, identify, and understand some of the dynamics of local plant communities. Vigorous field activities are required.

**BIOL 126 NATURAL HISTORY OF THE MOJAVE DESERT**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade Option.)

This course acquaints students with the unique plants of the Mojave Desert and their adaptations for survival. Emphasis is on identification, life history, water economy, and thermoregulatory mechanisms. Mojave Desert plant communities, climate, geology, geography, and history will also be discussed. Local conservation issues will also be surveyed, with special consideration of rare and endemic species.

**BIOL 127 IDENTIFICATION AND STUDY OF BIRDS OF THE MOJAVE DESERT AND ADJACENT MOUNTAINS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade Option.)

Field identification of 75 bird species of the local area. Includes song and habitat identification, study of birds' feathers, colors, and their uses. Adaptations of bills, feet, wings, and bones. Course also covers the food of birds, their ecological relationships, eggs and nests, senses and behavior, flight and song. Course touches briefly on bird migration.

**BIOL 128 IDENTIFICATION AND STUDY OF AMPHIBIANS AND REPTILES OF THE MOJAVE AND ADJACENT MOUNTAINS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade Option.)

This course is a survey of the amphibians and reptiles of the Mojave Desert and adjacent mountains. This course reviews amphibian and reptile characteristics, origin and evolution, and classification. This course will also discuss habitats, behaviors and adaptations of the local amphibians and reptiles.

**BIOL 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**BIOL 149 INDEPENDENT STUDY**

54-162 hours lecture.  
See Independent Study listing (1-3 units). CSU

**BIOL 201 BIOLOGY OF CELLS**

Units: 5.0 - 48-54 hours lecture and 96-108 hours laboratory. CSU, UC. (Prerequisite: MATH 90 or higher with a grade "C" or better. Prerequisite or co-requisite: CHEM 100 or CHEM 201 with a minimum grade of 'C' or better.)

This course will provide students with a comprehensive introduction to the biological principles at the cellular and molecular level. Emphasis will be placed on the scientific method, molecular biology, biochemistry, structure and function of cells, cellular reproduction and Mendelian and molecular genetics. This course is designed for pre-professional and biology majors but is open to all students.

**BIOL 202 BIOLOGY OF ORGANISMS**

Units: 5.0 - 48-54 hours lecture and 96-108 hours laboratory. CSU, UC. (Prerequisite: MATH 90 or higher with a grade "C" or better).

This course provides students with a comprehensive introduction to the diversity of biological organisms. Emphasis is placed on the origin of life, evolutionary relationships among groups of organisms and the basic anatomy and physiology of the major groups of living organisms and an introduction to the principles of ecology. Biology majors should also take Biology 201.

**BIOL 203 POPULATION AND ENVIRONMENTAL BIOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite.)

This rigorous course is an introduction to the structure and organization of populations, communities and ecosystems. Emphasis will be on demography, population growth, life history traits, extinction, species interactions and behaviors, ecosystem dynamics and evolution, as well as selected current environmental issues. Mathematical modeling, a difficult yet important aspect of population and community ecology, will also be addressed. Students will participate in field laboratories, use statistics to analyze data and compose scientific papers. This course is designed for biological science majors, but is open to all students.

**BIOL 211 HUMAN ANATOMY**

Units: 5.0 - 48-54 hours lecture and 96-108 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: BIOL 100 or BIOL H100, BIOL 107, or BIOL 201 with a grade of "C" or better.)

An introduction to the gross and microscopic anatomy of the human body. Lab includes dissection of cat, sheep eye, kidney, heart, and larynx. Lab also includes demonstrations on a human cadaver and assorted anatomical models. Lecture covers cells, tissues, and the major human systems such as the integumentary,

skeletal, muscular, nervous, endocrine, cardiovascular, respiratory, urinary, and reproductive.

**BIOL 213 SEXUALLY TRANSMITTED DISEASES**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite)

This course will provide an understanding of the history and pathogenesis of the most prominent sexually transmitted diseases. Emphasis will be placed on the biological agent, epidemiology, diagnosis and treatment of the disease. Vaccine development and current treatments will also be examined.

**BIOL 215 HUMAN GROSS ANATOMY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

An advanced anatomy class that utilizes a regional approach to the study of the thorax, abdomen, pelvis, back, extremities, head and neck. Lecture will include medical/clinical applications and case studies on these regions. Laboratory includes hands on group dissection on a whole cadaver; as well as work on a high-level anatomy software program.

**BIOL 221 GENERAL MICROBIOLOGY**

Units: 5.0 - 48-54 hours lecture and 96-108 hours laboratory. CSU, UC. (Prerequisites: BIOL 100 or BIOL H100, 107 or 201; CHEM 100 or CHEM H100, or CHEM 201; all completed with a grade of "C" or better.)

Introduction to bacteria, viruses, and parasitic forms of protozoa, helminths, and fungi. Examination of morphological, physiological, and epidemiological characteristics of these organisms and of the immune response produced by their hosts.

**BIOL 231 HUMAN PHYSIOLOGY**

Units: 5.0 - 48-54 hours lecture and 96-108 hours laboratory. CSU, UC. (Prerequisites: BIOL 100 or BIOL H100, BIOL 107, BIOL 201, or BIOL 211, CHEM 100 or CHEM H100, or CHEM 201; all completed with a grade of "C" or better.)

An introduction to general physiology with emphasis on the functioning of the human body. Included in the topics to be covered are biochemical aspects of cell homeostasis. The laboratory will include demonstrations and experiments to support basic physiological concepts. Included are experiments selected specifically for instruction in the interpretation of physiological tests and diagnostic testing procedures.

**BIOL 233 PATHOPHYSIOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU (Prerequisite: BIOL 231 with a grade of 'C' or better.)

This course is designed to promote understanding and application of fundamental disease processes in clinical settings. General concepts of disease, including etiology, pathogenesis, morphology and clinical significance are discussed. General pathophysiology concepts include cell injury, necrosis, inflammation, wound healing and neoplasia. These concepts are applied in a systems-oriented approach to disease processes affecting musculoskeletal, cardiopulmonary, renal, nervous, gastrointestinal, immune, hematological and endocrine systems.

### **BIOL 250A ECOSYSTEM FIELD BIOLOGY**

Units: 3.0 - 16-18 hours lecture and 96-108 hours laboratory. CSU (Prerequisite: BIOL 100, BIOL H100 or equivalent. Grade Option)

This course lets students experience various ecosystems from a fieldwork and research perspective. Students will learn research techniques hands-on from basic specimen collecting, species identification, and data gathering in the field to data analysis and scientific writing and will apply these in biodiversity surveys of terrestrial or aquatic habitats or both. An emphasis will be placed on amphibians and reptiles, or plant life, or birds, or mammals, or a combination of these (depending on the specialty of the instructor) and adaptations to life in tropical or other ecosystems. Pre-trip lectures will include information about habitats and organisms of the destination country, as well as previews of activities and adventures you will experience on the field trip. Trips vary in length from 9 days to 2.5 weeks. This course is intended for biology majors but is open to all students. Non-majors who wish to participate with less rigorous course requirements may wish to enroll in BIOL 98, Comparative Natural History Studies, which is offered concurrently.



## **BUSINESS**

### **Degrees and Certificates Awarded**

Associate in Science, Business

### **Associate Degree**

Students may earn an Associate in Science degree with a major in general Business by completing a minimum of 18 units from any certificate offered in the departments of Business Administration, Business Education Technologies, and Business Real Estate and Escrow or from a blend of courses from any of these departments or certificates.

The minimum 18 units for the general Business major may come from any of the following:

- ALDH 80, 81, 82, 139
- CIS 52, 61, 101
- ECON 101, 102
- MATH 105, 120
- Any Business Administration course except BADM 138
- Any Business Education Technology course except BET 138
- Any Business Escrow course except BESC 138
- Any Business Real Estate course except BRE 138

Students may prefer to major in Business Administration, Business Education Technologies, or Business Real Estate and Escrow rather than general Business to assure a stronger curriculum base.

### **Transfer**

See Business Administration or Business Education Technologies for transfer requirements.

## **BUSINESS ADMINISTRATION COURSES**

The Business Administration Department offers a variety of courses in business which allows a student to comply with the lower-division requirements for transfer to university level programs. Courses are also offered which allow the student to prepare for career entry-level positions and for upgrading of job skills for the already career-oriented student.

The department offers two certificates: a Management Certificate and Bookkeeping I Certificate. The Certificates are designed for those students interested in entering the field of business or for those who are currently working and would like to upgrade their business skills. Students completing the Management Certificate will have entry-level management knowledge and skills. Students completing the Bookkeeping I Certificate will have entry-level bookkeeping/accounting clerk skills. These certificates will also indicate that the student has completed a series of courses for skill upgrading for those already employed.

In addition to the certificates, students may also earn an Associate of Science Degree in Business Adminis-

tration. Many of the Business Administration Department courses are offered online via the Internet, allowing a student to earn the Management Certificate and/or the AS Degree through distance education. See the current Schedule of Classes for a listing of online classes.

Those students planning to transfer to an upper-division institution should select their courses with the assistance of a counselor since each transfer institution has unique requirements.

**Career Opportunities**

Positions from entry-level to mid-management may be reasonable expectations upon completion of either the Degree or the Certificate programs in the fields of retailing, merchandising, service-related businesses, bookkeeping, and manufacturing firms. Some possible position titles include:

- Accounting Clerk/Bookkeeper
- Administrative Assistant
- Department Manager
- Human Resource Manager
- Marketing Manager
- Merchandise Buyer
- Merchandise Manager
- Office Manager
- Purchasing Management
- Salesperson
- Store Manager

**Faculty**

**Full Time**

- Peter Allan
- David Hollomon
- O. Odell Moon
- Henry Young

**Degrees and Certificates Awarded**

- Associate in Science, Business Administration
- Bookkeeping I Certificate
- Management Certificate

**Certificate Programs**

**BOOKKEEPING I CERTIFICATE**

Units Required: 16.0

The Bookkeeping I Certificate is designed to give the student entry-level skills as an accounting clerk or bookkeeper. These skills include the ability to sort, record, and file accounting data, as well as perform general accounting tasks and assist in the processes of summarizing and analyzing accounting information, both manually and using a computerized accounting program.

*All of the following must be completed:*

BADM 106	Accounting on Microcomputers I	2.0
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BADM 107	Accounting on Microcomputers II	2.0
BADM 100	Introduction to Business Organization	3.0
BADM 142	Business Mathematics	3.0
BADM 50	Applied Accounting I	3.0
BADM 51	Applied Accounting II	3.0

**MANAGEMENT CERTIFICATE**

Units Required: 31.0 units minimum

The Management Certificate will give the student basic skills and education to become an entry-level manager in retailing, merchandising, service-related businesses, and manufacturing firms.

*Group I - All of the following must be completed:*

BADM 101	Elementary Accounting	4.0
OR		
BADM 103	Financial Accounting	3.0
BADM 110	Principles of Management	3.0
BADM 117	Legal Environment of Business	3.0
BADM 100	Introduction to Business Organizations	3.0
BADM 142	Business Mathematics	3.0
BADM 144	Business Communications	3.0
CIS 101	Computer Literacy	4.0

*Group II - One of the following must be completed:*

BADM 112	Introduction to Marketing	3.0
BADM 122	Small Business Management	3.0

*Group III - One of the following must be completed:*

ECON 101	Principles of Economics [Macro]	3.0
ECON 102	Principles of Economics [Micro]	3.0

*Group IV - One of the following must be completed:*

BADM 109	Human Resource Management	3.0
BADM 116	Human Relations in Business	3.0
BADM 52	Elements of Supervision	3.0

**Associate Degree**

To earn an Associate in Science degree with a major in Business Administration, complete a minimum of 18 units from any of the certificate requirements above or from any Business Administration courses and meet all Victor Valley College graduation requirements. BADM 138 (Cooperative Education) may be used as Elective credit but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Administration major*  
 Complete the following courses prior to transfer if possible: BADM 101 or 103; 102 or 104; 118; ECON 101, 102; CIS 101; MATH 105, 120.  
 Additional classes may be required in some concentrations.
- **University of California, Riverside**  
*Business Administration major*  
 Complete the following courses prior to transfer if possible: BADM 100; 101 or 103; CIS 101; ECON 101, 102; Math 120, 226.

### Local Bachelors Programs

For information on the following programs located in the High Desert, please visit: [www.vvc.edu/offices/guidance\\_and\\_counseling/](http://www.vvc.edu/offices/guidance_and_counseling/) and select "Counseling Information Sheets":

- **Azusa Pacific University, High Desert Regional Center**  
*Organizational Leadership major*
- **Brandman University, Victor Valley Campus**  
*Business Administration major*  
*Organizational Leadership major*
- **University of La Verne, High Desert Campus**  
*Business Administration major*  
*Organizational Management major*  
*Public Administration major*

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## BUSINESS ADMINISTRATION

### BADM 50 APPLIED ACCOUNTING I

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

Introduction to the bookkeeping problems of a small business enterprise for both merchandising and service-type organization. Emphasis on the development of skills for both cash and accrual methods of recording, including procedures for completion of an accounting cycle. Attention is given to special journals, subsidiary ledgers, and payroll and control systems.

### BADM 51 APPLIED ACCOUNTING II

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

Continuation of bookkeeping procedures. Special emphasis on development of skills in the following areas: valuation of assets, business taxes, problems of accruals and deferrals, department and branch office records, preparation of statements and budgeting.

### BADM 52 ELEMENTS OF SUPERVISION

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course is designed to introduce the student to the concepts of effectively supervising employees. Students will be introduced to the elements of directing the work of others and the specific skills required for goal setting, budgeting, scheduling, delegating, interviewing, negotiation, handling grievances, counseling employees, and performance evaluations.

### BADM 100 INTRODUCTION TO BUSINESS ORGANIZATIONS

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

Business is dynamic and constantly changing. This course is designed to introduce the student to contemporary issues and principles of business as well as the different areas of business a student may be interested in pursuing as a career. These areas include management, marketing, accounting, finance, human resource management, and entrepreneurship. In addition, other topics include the global dimension of business, the various forms of business ownership, teamwork, securities, ethics and social responsibility, and economic challenges facing the 21st century.

### BADM 101 FINANCIAL ACCOUNTING

Units: 4.0 - 64-72 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

This introductory financial accounting course provides instruction in the theory and practice of accounting applicable to recording, summarizing, and reporting of business transactions for external uses. Topics include coverage of asset valuation, revenue and expense recognition, and appropriate accounting methods for long term assets, liability, and capital accounts. Additional areas of coverage include financial statement and rational analysis. The course includes application of general ledger software as well as Microsoft Excel programs. This course is required for business majors preparing for and planning to transfer to a four year college or university.

### BADM 102 MANAGERIAL ACCOUNTING

Units: 4.0 - 64-72 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

This course is the study of theory and practices of managerial accounting and organizational quantitative analysis with decision making. Special emphasis is placed on product and process costing, responsibility accounting, break even analysis and master budgeting.

### BADM 103 FINANCIAL ACCOUNTING

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

This course is a study of the theory and practice of financial accounting for a sole proprietorship. Concepts and principles are introduced in a logical progression from the introduction of the accounting equation to preparation of financial statements. The course focuses on both service enterprises and merchandise enterprises. Business transactions are recorded, analyzed, and summarized within the accounting system of record keeping.

#### **BADM 104 PRINCIPLES OF ACCOUNTING**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

This course covers accounting theory and procedures for corporations, basic accounting theory pertaining to the accounting for long-term liabilities and investments, the preparations and content of a cash flow statement, and basic financial statement analysis. In addition, this course covers accounting theory and procedures for a manufacturer (including job order and process costing systems, and actual, normal, and standard costing systems), budgeting (master budgets, cash budgets, and flexible budgets), cost-volume-profit analysis, variance analysis, responsibility accounting, and decision analysis including capital budgeting.

#### **BADM 106 ACCOUNTING ON MICROCOMPUTERS**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. CSU. (No prerequisite)

A course in basic accounting procedures using IBM - PC microcomputers to complete all accounting procedures. General ledger, accounts payable, accounts receivable, depreciation, and payroll will be covered.

#### **BADM 107 ACCOUNTING ON MICROCOMPUTERS**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. CSU. (No prerequisite)

This course is intended to be a continuation and expansion on accounting procedures covered in BADM 6. Topics covered include billing, purchasing, product assembly, inventory control, payroll, taxation, and reporting and graphics presentations. Students successfully completing both BADM 106 and 107 should be fully qualified to take full control of any computerized accounting program used by a small business.

#### **BADM 109 HUMAN RESOURCE MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This introductory course is designed to acquaint the student with the important functions performed by the human resource department in a business organization. These functions include recruiting, staffing, training and development, compensation, strategic human resource

planning, personnel evaluation, and management-labor relations. Other topics include global issues, the legal environment, EEO, sexual harassment, and design of work. This course is for the managerial candidate, for those who have not had formal management training, or for the individual who is currently or interested in working in a human resource department.

#### **BADM 110 PRINCIPLES OF MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This is an introductory course to the management functions of planning, organizing, leading and controlling. The concepts of corporate culture, the impact of the external environment, business ethics and social responsibility, motivation, communication and teamwork, globalization, and quality control are a few of the topics covered. This course is designed for the managerial candidate or for the individual who has worked but not had formal training in business management.

#### **BADM 112 INTRODUCTION TO MARKETING**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite, Grade Option)

This course is an introduction to contemporary marketing principles. Included in this course will be relationship marketing, the global dimension of marketing, e-commerce, marketing plan development, research, market segmentation, product strategy, distribution, promotional, and pricing strategies.

#### **BADM 113 RETAILING MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Grade Option.)

This course presents a strategic approach to retail management. Topics include appropriate marketing strategies, communicating with customers and staff, searching for and finding appropriate retail locations, and merchandising and pricing. Field trips may be included.

#### **BADM 116 HUMAN RELATIONS IN BUSINESS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Human relation skills mean interactions among people and represent the single biggest reason for career success and failure. This course provides a clear understanding of human relation concepts, the application of human relation concepts for critical thinking in the business world, and the ability to increase the student's development of human relation skills.

**BADM 117 LEGAL ENVIRONMENT OF BUSINESS**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite, Grade Option)

The study of the American legal system and principles of law as applies to business. Course content includes the legal environment of business, nature and source of law, court systems, dispute resolution, common and statutory law, Constitutional law, administrative agencies, torts and business torts, contract law, and the Uniform Commercial Code as it relates to the sale of goods. Additionally, the legal forms of business will be addressed as to the formation, operation, and termination of proprietorships, partnerships, and corporations.

**BADM 118 BUSINESS LAW**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

The study of business law, both case and statutory, as it applies to the Uniform Commercial Code dealing with negotiable instruments; secured transactions and bankruptcy; employment law and agency; property, real and personal, to include bailments; and governmental agencies' regulation of business to include antitrust and fair business practices.

**BADM 122 SMALL BUSINESS MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

An introduction to contemporary management techniques used by small businesses in the free enterprise system. The course focuses on entrepreneurial opportunities, developing a business plan for a planned or existing small business, small business marketing, operations, and financial management.

**BADM 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**BADM 142 BUSINESS MATHEMATICS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

An introduction to a variety of business computations and applications such as percents, payroll, markup/markdown, cash and trade discounts, simple and compound interest, annuities, credit, mortgages, financial statements and analysis, inventory, depreciation, and taxes.

**BADM 144 BUSINESS COMMUNICATIONS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Grade Option)

Studies the principles and role of business communication and the need for communication skills in a global marketplace. Emphasizes written communications such as standard and persuasive business letters, memorandums, and informational as well as analytical reports. Studies effective proposal, resumes, and other employment-related documents. Develops planning, organizing, and outlining skills as well as editing proficiency. Evaluates grammar skills and improves writing style.

**BADM 148 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU

**BADM 149 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU



**BUSINESS EDUCATION TECHNOLOGIES**

The study of Business Education Technologies is designed to prepare students for a variety of careers in high-tech business offices. Transfer level courses are available for students preparing for a bachelor's degree. The Associate in Science degree and Certificates of Achievement and Career Preparation are awarded.

**Career Opportunities**

- Administrative Assistant
- Data Entry
- Desktop Publishing
- Executive Secretary
- General Clerk
- Office Manager
- Receptionist
- Stenographer
- Teacher
- Typist
- Transcription Machine Operator

**Faculty**

**Full Time**

- Barbara Becker
- Becky Palmer - Emeritus

**Degrees and Certificates Awarded**

- Associate in Science, Business Education Technologies
- Administrative Assistant Certificate
- Computer Systems I Certificate
- Computer Systems II Certificate
- Data Typist Certificate
- Legal Office Certificate
- Medical Office Certificate
- Office Services Certificate
- Spreadsheet Processor Certificate
- Word Processor Certificate

**Certificate Programs**

**ADMINISTRATIVE ASSISTANT CERTIFICATE**

Units Required: 34.0

This curriculum is designed to prepare students for employment in business/industry/government for higher-level executives. Duties include office supervision, word processing, maintaining office records and accounts.

**(Group I: 28 units, Group II: 6 units)**

Group I - All of the following must be completed (28 units):

BET 100	Introduction to Computers	2.0
BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0
BET 107	Internet Level I	1.0
BET 124	Records Management	2.0
BET 136	Career Applications for Word Processing	3.0

BET 141A	Operating System: Windows	1.0
BET 142	Office Technologies and Procedures	3.0
BET 74	Office Machine Calculations	2.0
BET 112	Spreadsheet: Excel for Windows	3.0
BADM 106	Accounting on Microcomputers	2.0
BET 65	Speedwriting	3.0

3 units must be chosen from **one** of the following:

BET 143	Business English	3.0
BET 68	Proofreading A/B/C	3.0

Group II - 6 units of the following must be completed:

ECON 101	Principles of Economics: Macro	3.0
BADM 110	Business Management	3.0
BET 141B/C	Operating System: Windows	1.0-2.0
BET 77	Speed and Accuracy Development	2.0
BET 131	Powerpoint A/B/C	1.0-3.0
BET 137	Desktop Publishing: Microsoft Publisher A/B/C	1.0-3.0
BET 123T	Machine Transcription	1.0
BET 145	Communications for Business	3.0
BET 134	Condensed Word Processing	1.0
BET 122	Intermediate Keyboarding/Typing A/B/C	3.0
BET 118	Database: Access A/B/C	1.0-3.0

**COMPUTER SYSTEMS I CERTIFICATE**

Units Required: 10.0

This curriculum is designed to prepare students for entry-level word processing or data entry positions.

Group I - 3 units

BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0
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Group II - 7 units of the following must be completed:

BET 107	Internet Level I	1.0
BET 123T	Machine Transcription	1.0
BET 112	Spreadsheet: Excel for Windows A/B/C	1.0-3.0
BET 136	Career Applications for Word Processing	3.0
BET 143	Business English	3.0
BET 68	Proofreading A/B/C	3.0
BET 131	Powerpoint A/B/C	1.0-3.0
BET 100	Introduction to Computers	2.0
BET 137	Desktop Publishing: Microsoft Publisher A/B/C	1.0-3.0

**COMPUTER SYSTEMS II CERTIFICATE**

Units Required: 20.0



This curriculum is designed to prepare students for the modern computer office. It includes instruction in the most popular business software.

*All of the following must be completed:*

BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0
BET 107	Internet Level I	1.0
BET 112	Spreadsheet: Excel for Windows A/B/C	3.0
BET 136	Career Applications for Word Processing	3.0
BET 141A	Operating System: Windows	1.0

*6 units must be chosen from the following:*

BET 118	Database: Access A/B/C	1.0-3.0
CIS 280	Fundamentals of Database Management Systems	3.0
BET 131	Powerpoint A/B/C	1.0-3.0
BET 100	Introduction to Computers	2.0
BET 137	Desktop Publishing: Microsoft Publisher A/B/C	1.0-3.0

*3 units must be chosen from one of the following:*

BET 143	Business English	3.0
BET 68	Proofreading A/B/C	3.0

**DATA TYPIST CERTIFICATE**

Units Required: 16.0

This curriculum is designed to prepare students for entry-level positions as a data entry operator. Duties for this position include general clerical tasks, data entry, and word processing.

**(Group I: 9 units, Group II: 7 units)**

*Group I - All of the following must be completed:*

BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0
BET 136	Career Applications for Word Processing	3.0
BET 68	Proofreading	1.0
BET 74	Office Machine Calculations	2.0

*Group II - 7 units of the following must be completed:*

BET 107	Internet Level I	1.0
BET 123T	Machine Transcription	1.0
BET 134	Condensed Word Processing	1.0
BET 135	Desktop Publishing: PageMaker	2.0
BET 137	Desktop Publishing: Microsoft Publisher A/B/C	1.0-3.0
BET 141A	Operating System: Windows	1.0
BET 77	Speed and Accuracy Development	2.0
BET 112A	Spreadsheet: Excel for Windows	1.0
BET 145	Communications for Business	3.0

BET 143	Business English	3.0
BET 68	Proofreading A/B/C	1.0-3.0
BET 118	DataBase: Access A/B/C	1.0-3.0
BET 122	Intermediate Keyboarding/Typing A/B/C	3.0
CIS 280	Fundamentals of Database Management Systems	3.0

**LEGAL OFFICE CERTIFICATE**

Units Required: 28.0

This curriculum is designed to prepare students to become a productive secretary in a modern legal office. Duties include maintaining records, word processing, transcription, and general legal office tasks.

*All of the following must be completed:*

BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0
BADM 117	Legal Environment of Business	3.0
BET 123L	Machine Transcription-Legal	3.0
BET 124	Records Management	2.0
BET 136	Career Applications for Word Processing	3.0
BET 142	Office Technologies and Procedures	3.0
BET 74	Office Machine Calculations	2.0
BET 65	Speedwriting	3.0

*3 units must be chosen from one of the following:*

BET 143	Business English	3.0
BET 68	Proofreading A/B/C	3.0

*3 units must be chosen from one of the following:*

BET 145	Communications for Business	3.0
BET 141A	Operating System: Windows	1.0
BET 118	DataBase: Access A/B/C	1.0-3.0
BET 131	Powerpoint A/B/C	1.0-3.0
BET 100	Introduction to Computers	2.0
BET 112	Spreadsheet: Excel for Windows A/B/C	3.0

**MEDICAL OFFICE CERTIFICATE**

Unit Required: 30.0

This curriculum is designed to prepare students to effectively carry out front medical office functions. Administrative duties include scheduling and receiving patients, maintaining medical records, office accounts, insurance forms, and transcription. See *Medical Assistant* for a program which includes both front and back office preparation and a clinical component.

*All of the following must be completed:*

BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0
BET 123M	Machine Transcription-Medical	3.0

BET 124	Records Management	2.0
BET 136	Career Applications for Word Processing	3.0
BET 142	Office Technologies and Procedures	3.0
ALDH 80	Pharmacology	3.0
ALDH 81	Medical Insurance	3.0
ALDH 82	Medical Office Procedures	3.0
ALDH 139	Medical Terminology	3.0

1 unit must be chosen from one of the following:

BET 141A	Operating System: Windows	1.0
BET 118	DataBase: Access A/B/C	1.0-3.0
BET 131	Powerpoint A/B/C	1.0-3.0
BET 100	Introduction to Computers	2.0
BET 112	Spreadsheet: Excel for Windows A/B/C	3.0

**OFFICE SERVICES CERTIFICATE**

Units Required: 11.0

This curriculum is designed to prepare students for entry-level positions in the clerical field and as a receptionist. Entry-level duties include general clerical tasks, filing, and word processing.

Group I - 5 units of the following must be completed:

2 units may be chosen from:

BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0
BET 124	Records Management	2.0
BET 136	Career Applications for Word Processing	3.0

Group II - 6 units of the following must be completed:

BET 123T	Machine Transcription	1.0
BET 142	Office Technologies and Procedures	3.0
BET 74	Office Machine Calculations	2.0
BET 131	Powerpoint A/B/C	1.0-3.0
BET 137	Desktop Publishing: Microsoft Publisher A/B/C	1.0-3.0
BET 112	Spreadsheet: Excel for Windows A/B/C	3.0
BET 118	DataBase: Access A/B/C	1.0-3.0
BET 122	Intermediate Keyboarding/Typing A/B/C	3.0
BET 65	Speedwriting	3.0

3 units may be chosen from one of the following:

BET 143	Business English	3.0
BET 68	Proofreading A/B/C	3.0

**SPREADSHEET PROCESSOR CERTIFICATE**

Units Required: 3.0

This curriculum is designed to prepare students for entry-level bookkeeping positions.

BET 112	Spreadsheet: Excel for Windows A/B/C	3.0
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**WORD PROCESSOR CERTIFICATE**

Units Required: 3.0

This curriculum is designed to prepare students for entry-level secretarial positions.

BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0
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**Associate Degree**

To earn an Associate in Science degree with a major in Business Education Technologies, complete 18 units from any of the certificate requirements above or from any Business Education Technologies courses, and meet all Victor Valley College graduation requirements. BET 138 (Cooperative Education) may be used as Elective credit but may not be used to fulfill major requirements.

**Transfer**

Not usually a transfer major. Some Business Education Technologies courses fulfill subject credit requirements, but most transfer as electives. (Students pursuing a bachelor's degree in Business Administration should note that Business Education Technologies courses will typically not fulfill major requirements for transfer. See Business Administration for transfer requirements for that degree.)

The following CSU campuses offer a B.S. degree in Business Education for students who plan to teach business in grades 7-12:

- California State University  
Los Angeles  
Northridge

For further transferable courses, it is recommended to meet with your Counselor, and visit [www.assist.org](http://www.assist.org).

**BUSINESS EDUCATION TECHNOLOGIES COURSES**

**BET 65 SPEEDWRITING**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

A simplified method of shorthand based on systematic abbreviations. This course is intended for the entry-level promotable secretary, the electronic office, and college students desiring note-taking skills.

**BET 68 PROOFREADING**

Units: 3.0 - 144-162 hours laboratory. (No prerequisite. Recommended preparation: BET 104, 104A, 104B or 104C) This course may be taken four times.

Students develop proofreading skills necessary to meet high levels of accuracy and review basic business English skills: punctuation, word usage, sentence and paragraph structure. Practice/exercises are done on the microcomputer for Modules B and C.

**BET 74 OFFICE MACHINE CALCULATIONS**

Units: 2.0 - 64-72 hours individualized instruction. (No prerequisite)

Provides practice on ten-key calculating machine with applications of actual business problems and forms.

**BET 77 SPEED AND ACCURACY DEVELOPMENT**

Units: 2.0 - 96-108 hours laboratory or 64-72 hours individualized instruction. (No prerequisite. Grade Option.) This course may be taken two times.

This course is designed to fit the needs of each student and develops keyboarding/typing speed for continuing to higher level courses or developing job skills by intensive training and practices.

**BET 100 INTRODUCTION TO COMPUTERS**

Units: 2.0 - 32-36 hours lecture. CSU. (No prerequisite. Grade Option)

This course is directed to those with little or no computer experience. It will introduce basic essential elements of computers such as: power up, hardware components, evolution of computers, types of personal computers, the input-process-output cycle, desktop components, email, and the World Wide Web.

**BET 101 BEGINNING KEYBOARDING/TYPING**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite) This course may be taken four times.

This course is individualized to fit the needs of each student and develop basic alpha/numeric keyboarding skills and basic mouse operation on the computer. Emphasis is on achieving a straight-copy speed of 20 gross words a minute with a predetermined error limit.

**BET 104 BEGINNING WORD PROCESSING/TYPING: WORD FOR WINDOWS A/B/C**

Units: 3.0 - 48-54 hours lecture or 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This course introduces students to Word for Windows. Students will develop a working knowledge of this current software package to prepare documents.

**BET 104A WORD FOR WINDOWS A**

Units: 1.0 - 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This course introduces students to Word for Windows with emphasis on creating, editing, formatting, and printing documents. It is designed for students with limited experience on the computer.

**BET 104B WORD FOR WINDOWS B**

Units: 1.0 - 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This course introduces students to Word for Windows. Students will develop a working knowledge of this current software package to prepare documents.

**BET 104C WORD FOR WINDOWS C**

Units: 1.0 - 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This course introduces students to Word for Windows. Students will develop a working knowledge of advanced Word features including styles, macros, and integrating Microsoft Office programs.

**BET 107 INTERNET A/B/C**

Units: 3.0 - 48-54 hours lecture or 96-108 hours individualized instruction. CSU (No prerequisite. Grade Option.) This course may be taken four times.

This course is designed to teach students concepts and business skills of the Internet including creating an e-mail account; creating, editing, and printing effective web pages; and understanding Internet technologies and security.

**BET 107A INTERNET A**

Units: 1.0 - 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

This introductory course is a self-paced, individualized course. Basic Internet topics and commands such as defining the Internet and browsing the Web are covered.

**BET 107B INTERNET B**

Units: 1.0 - 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

This introductory course is a self-paced, individualized course. Internet topics and commands such as searching the Internet, composing and sending e-mails, and using research and reference tools are covered.

**BET 107C INTERNET C**

Units: 1.0 - 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

This third unit is a self-paced, individualized introduction designed to teach students concepts of Internet technologies and security, creating web pages and managing a web site.

**BET 112 SPREADSHEET: EXCEL FOR WINDOWS A/B/C**

Units: 3.0 - 48-54 hours lecture or 144-162 hours laboratory or 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

This course offers spreadsheet operations for creating, editing, formatting and enhancing charts in worksheets. Students learn to manage workbooks and prepare them for the web. Students plan, create, and then filter lists using Excel's database.

**BET 112A SPREADSHEET: EXCEL FOR WINDOWS A**

Units: 1.0 - 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

This first unit of Excel is a self-paced, individualized introduction to spreadsheet operations for creating, editing, formatting and placing graphics in worksheets. Extensive hands-on practice for students is provided at individualized workstations.

**BET 112B SPREADSHEET: EXCEL FOR WINDOWS B**

Units: 1.0 - 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

This second unit is a self-paced, individualized introduction to the commands and functions for

customizing the worksheet, working with the tool bar, and enhancing worksheet charts or graphs. Extensive hands-on practice is provided at individual workstations.

**BET 112C SPREADSHEET: EXCEL FOR WINDOWS C**

Units: 1.0 - 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

This third unit is a self-paced, individualized introduction to complex formulas, enhancing charts and worksheets working with pivot tables and customizing Excel and advanced worksheet management. Extensive hands-on practice is provided at individual workstations.

**BET 118 DATABASE: ACCESS A/B/C**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite) This course may be taken three times.

Familiarity with computers is recommended. Introduces database concepts through advanced skill levels including advanced queries, briefcase replication, macros and use of Visual Basic for applications code.

**BET 118A DATABASE: ACCESS A**

Units: 1.0 - 32-36 hours individualized instruction. CSU. (No prerequisite) This course may be taken three times.

Introduces database concepts and skills. Students will learn to manage and organize database files with extensive hands-on practice at individual work stations.

**BET 118B DATABASE: ACCESS B**

Units: 1.0 - 32-36 hours individualized instruction. CSU. (Prerequisite: BET 118A) This course may be taken three times.

This second unit in database management will feature advanced querying, storing and organizing business information.

**BET 118C DATABASE: ACCESS C**

Units: 1.0 - 32-36 hours individualized instruction. CSU. (Prerequisite: BET 118B) This course may be taken three times.

This course is designed to teach the student advanced concepts and business skills using Access, including working with advance queries, briefcase replication, macros and the use of Visual Basic for applications code.

**BET 122 INTERMEDIATE KEYBOARD/TYPING MODULES A/B/C**

Units: 3.0 - 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

This course is designed to build speed and skills learned in Beginning Typing/Keyboarding with an emphasis on attaining straight copy rate of 45-60 gross wpm with a predetermined error limit. Additionally, students will develop skills needed to effectively format a variety of business documents.

**BET 123L MACHINE TRANSCRIPTION – LEGAL**

Units: 3.0 - 96-108 hours individualized instruction. CSU. (Prerequisite: Successful completion of BET 103C or 104C. Recommended: BADM 117) This course may be taken three times.

Students develop machine transcription skills used in a typical law firm and learn to prepare legal documents and correspondence.

**BET 123M MACHINE TRANSCRIPTION – MEDICAL**

Units: 3.0 - 96-108 hours individualized instruction. CSU. (Prerequisite: Successful completion of BET 103C or 104C. Recommended: ALDH 139) This course may be taken three times.

Students develop machine transcription skills for a medical transcriber and learn the use and meaning of medical terminology used in the Allied Health field. Recommended: ALDH 139) This course may be taken three times.

**BET 123T MACHINE TRANSCRIPTION**

Units: 2.0 - 32-36 hours lecture or 96-108 hours laboratory or 64-72 hours individualized instruction. CSU. (No prerequisite. Recommended Preparation: BET 104A) This course may be taken four times.

Introduces students to word processing transcription of business letters and memos.

**BET 124 RECORDS MANAGEMENT WITH MICROCOMPUTER APPLICATIONS**

Units: 2.0 - 32-36 hours lecture or 96-108 hours laboratory or 64-72 hours individualized instruction. CSU. (No prerequisite)

Principles and procedures of establishing and maintaining records systems with detailed instruction and practice in the use of alphabetic, geographic, numeric, and subject filing systems as defined by the Association of Records Managers and Administrators.

**BET 131 PRESENTATION SOFTWARE: POWERPOINT A/B/C**

Units: 3.0 - 48-54 hours lecture or 144-162 hours laboratory or 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This course is designed to teach students concepts and business skills of PowerPoint including creating, editing, and printing effective presentations. Students learn advanced PowerPoint features such as creating graphs and tables, and customizing, and inserting artwork, WordArt, and slide show effects. Students learn concepts and business skills of PowerPoint. The concepts and skills include working with embedded and linked objects, hyperlinks, and delivering and publishing presentations.

**BET 131A PRESENTATION SOFTWARE: POWERPOINT A**

Units: 1.0 -16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This course is designed to teach students the concepts and business skills of PowerPoint including creating, editing, and printing effective presentations. This class provides students with skills that enable them easily and quickly to produce classroom and business presentations.

**BET 131B PRESENTATION SOFTWARE: POWERPOINT B**

Units: 1.0 - 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

Students will learn advanced PowerPoint features such as creating graphs, tables, customizing color schemes and inserting artwork, WordArt and slide show effects.

**BET 131C PRESENTATION SOFTWARE: POWERPOINT C**

Units: 1.0 - 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This is a self-paced, individualized introduction designed to teach students concepts and business skills of PowerPoint including customizing, working with embedded and linked objects and hyperlinks and delivering and publishing presentations.

**BET 133 MICROSOFT OFFICE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Grade Option)

This class is designed to introduce students to the basic functions of Microsoft Office Word, Excel, PowerPoint, and Access, as well as a brief overview of operating systems and the Internet.

**BET 136 CAREER APPLICATIONS FOR WORD PROCESSING**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Recommended preparation: Successful completion of BET 104 or BET 103. Ability to use word processing functions to create, format and edit advanced business documents. Grade Option)

This course is designed for the student who is familiar with word processing functions and formatting principles. Topics will include terminology and methodology used in a variety of business careers by applying formatting and keyboarding skills to complex professional documents including letters, memos, forms, tables and reports.

**BET 137 DESKTOP PUBLISHING: MICROSOFT PUBLISHER A/B/C**

Units: 3.0 - 48-54 hours lecture or 144-162 hours laboratory or 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This class is designed to teach students practical, professional quality publications using Microsoft Publisher.

**BET 137A DESKTOP PUBLISHING: MICROSOFT PUBLISHER A**

Units: 1.0 - 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This is the introductory course designed to teach students the concepts and business skills of Microsoft Publisher. This class provides students with the skills to easily and quickly produce professional classroom and business publications.

**BET 137B DESKTOP PUBLISHING: MICROSOFT PUBLISHER B**

Units: 1.0 - 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This unit will teach students the advanced Publisher features such as enhancing a publication and using Publisher's drawing tools and styles.

**BET 137C DESKTOP PUBLISHING: MICROSOFT PUBLISHER C**

Units: 1.0 - 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This unit is designed to teach students advanced concepts and business skills of Publisher including customizing publications and publishing web sites.

**BET 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**BET 141 OPERATING SYSTEM: WINDOWS A/B/C**

Units: 3.0 - 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

Introduction to Windows operating system and features through extensive hands-on exercises.

**BET 141A OPERATING SYSTEMS: WINDOWS A**

Units: 1.0 - 16-18 hours lecture or 32-36 hours individualized instruction. CSU. (No prerequisite) This course may be taken four times.

This first unit is an introduction to Windows, a Graphical User Interface environment. Extensive hands-on practice at individual workstations will provide students with the fundamental commands and features of Windows.

**BET 141B OPERATING SYSTEM: WINDOWS B**

Units: 1.0 - 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This second unit covers more extensive hands-on practice with additional Windows commands and use of icons.

**BET 141C OPERATING SYSTEM: WINDOWS C**

Units: 1.0 - 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This third unit includes features using program manager and Windows interface.

**BET 142 OFFICE TECHNOLOGIES AND PROCEDURES**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Grade Option)

Students will learn practical application of current automated office procedures, duties, and human relations. Specific topics include telephone, electronic mail, Internet activities, data entry, reference resources, job seeking, mail and shipping services and procedures, office relations, office etiquette and dress, time management, travel arrangements, meetings, minutes, and office equipment. Development of critical thinking skills and decision-making skills throughout the course.

**BET 143 BUSINESS ENGLISH**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite. Grade Option)

This is a technical course to develop a proficiency in written business communication. A comprehensive review of proofreading, grammar, punctuation, sentence structure, and letter and memo formats emphasizing the function of business English in various types of business communications.

**BET 145 COMMUNICATIONS FOR BUSINESS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This is a course designed for Business Education Technologies to create proficiency in the mechanics of writing, reading, and critically analyzing various types of business correspondence. This course includes a review of grammar, reading, proofreading and editing; and analysis of writing styles in business correspondence and report format. Principles of communication psychology as it applies to human relations will be reviewed in solving business communications problems.

**BET 148 SPECIAL TOPICS**

See Special Topics listing (Variable units).

**BET 149 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

**BUSINESS ESCROW COURSES****BESC 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**BESC 141 ESCROW I, PRINCIPLES (BASIC)**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Methods and techniques of escrow procedures for various types of business transactions with emphasis on real estate, including the legal and ethical responsibilities for persons engaged in escrow work. Elective for the Real Estate Broker's license. Meets the 18-month, post licensing, educational requirements for the California Real Estate Salesman's license.

**BESC 142 ESCROW II, PRINCIPLES (ADVANCED)**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Covers the more unusual and difficult types of escrows with an evaluation of the possible solutions. Emphasis is on real estate with some personal property and bulk sales covered. Elective for the Real Estate Broker's license. Meets the 18-month, post licensing, educational requirements for the California Real Estate Salesman's license.

**BESC 148 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU

**BESC 149 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

**BUSINESS REAL ESTATE AND ESCROW**

This program is designed to provide the student with the comprehensive knowledge needed to enter or invest in the real estate industry. A progressively challenging course curriculum starts with the Principles class, learning the language of real estate. This is a state-mandated course for those testing for a real estate salesperson's license. From there an "investor" student might pursue the more difficult Finance, Law, or Appraisal courses. The certificate program provides a structured approach to the course work. The Advanced Business Real Estate Certificate includes all the courses and Electives necessary to take the state's Real Estate Broker's examination.

The single largest business transaction entered into by most people is the sale or purchase of a home or other real estate. Consequently, people often seek the professional opinions and assistance of real estate salespersons, brokers, and appraisers. These professionals are familiar with the various forms of financing available in any given market. They keep abreast of actions taken by their county or city planners

and become familiar with the zoning laws, tax laws, and real estate and contract law in order to better serve their clients. Real estate agents and brokers are not limited to selling real estate for they can also manage or develop property.

The escrow program provides the student with the training necessary for the escrow industry. The student is introduced to the basic principles of escrow before moving to the more advanced case studies and practices of the industry. A series of real estate courses acquaints the student with real estate agent skills. Additionally, business courses in accounting, law, human relations, math, and investments complete the program and will give the student an understanding of the business community and the responsibilities within the escrow industry.

The escrow officer is a highly trained individual whose knowledge of real estate transfer for private businesses and estate settlement procedures is essential for the operation of an escrow office.

**Career Opportunities**

- Banking
- Developer
- Escrow Officer
- Escrow Secretary
- Loan Broker/Salesman
- Property Manager
- Real Estate Appraiser
- Real Estate Broker
- Real Estate Lawyer
- Real Estate Salesperson
- Real Estate Secretary
- Securities Broker
- Title Insurance Representative

**Faculty**

**Full Time**

Chris Grover

**Degrees and Certificates Awarded**

- Associate in Science, Business Real Estate and Escrow
- Advanced Business Real Estate Certificate
- Basic Business Real Estate Certificate
- Business Real Estate Apprentice Certificate
- Property Management Certificate
- Real Estate Appraiser Certificate
- Real Estate Marketing Certificate
- Real Estate Secretarial Services Certificate

**Certificate Programs**

**BUSINESS REAL ESTATE APPRENTICE CERTIFICATE**

Units Required: 9.0

To sit for the real estate salesperson's exam, California Real Estate Law requires that prospective real estate licensees complete college level courses in Real Estate

Principles, Real Estate Practices and one additional elective from the Group II list. This certificate program provides students with courses they need to comply with that law. This certificate, along with the successful completion of the California Real Estate Salesperson's exam, enables students to obtain employment as a real estate licensee within the state of California.

*Group I - The following must be completed with a grade of "C" or better:*

BRE 100	Real Estate Principles	3.0
BRE 101	Real Estate Practices	3.0

*Group II- Any one of the following must be completed with a grade of "C" or better:*

BRE 110	Legal Aspects of Real Estate I	3.0
BRE 120	Real Estate Appraisal	3.0
BRE 126	Real Estate Finance	3.0
BRE 127	Real Estate Office Management	3.0
BRE 139	Real Estate Economics	3.0
BRE 140	Real Property Management	3.0
BESC 141	Escrow 1	3.0

**BASIC BUSINESS REAL ESTATE CERTIFICATE**

Units Required: 18.0

This Certificate program thoroughly prepares the student to become a professional real estate salesperson in the state of California.

*Group I - All of the following must be completed:*

BRE 100	Real Estate Principles	3.0
BRE 110	Legal Aspects of Real Estate I	3.0
BRE 120	Real Estate Appraisal	3.0
BRE 126	Real Estate Finance	3.0
BRE 142	Real Estate Marketing	3.0

*Group II - Either one of the following must be completed:*

BRE 101	Real Estate Practices	3.0
BADM 103	Financial Accounting	3.0

**ADVANCED BUSINESS REAL ESTATE CERTIFICATE**

Units Required: 27.0

This Certificate program builds upon the "Basic" Certificate and thoroughly prepares the student who wishes to test for the real estate broker's license and go on to open and operate a professional real estate business.

*Group I - All of the following must be completed:*

BRE 100	Real Estate Principles	3.0
BRE 101	Real Estate Practices	3.0



BRE 110	Legal Aspects of Real Estate I	3.0
BRE 120	Real Estate Appraisal	3.0
BRE 121	Advanced Real Estate Appraisal: Income Property	3.0
BRE 126	Real Estate Finance	3.0
BRE 139	Real Estate Economics	3.0
OR		
BADM 101	Elementary Accounting	4.0
OR		
BADM 103	Financial Accounting	3.0

*Group II - Any two of the following must be completed:*

BADM 117	Legal Environment of Business	3.0
BESC 141	Escrow 1	3.0
BESC 142	Escrow 2	3.0
BRE 111	Legal Aspects of Real Estate II	3.0
BRE 125	Taxes and Real Estate Investment	3.0
BRE 127	Real Estate Office Management	3.0
BRE 140	Real Property Management	3.0
BRE 142	Real Estate Marketing	3.0

**PROPERTY MANAGEMENT CERTIFICATE**

Units Required: 21.0

The Certificate program thoroughly prepares future property managers by examining the principles of real estate, accounting, office and property management and the computer applications necessary for efficient property management.

*Group I - All of the following must be completed:*

BRE 100	Real Estate Principles	3.0
BRE 120	Real Estate Appraisal	3.0
BRE 140	Real Property Management	3.0
BADM 103	Financial Accounting	3.0
BADM 110	Business Management	3.0

*Group II - Any two of the following must be completed:*

BRE 101	Real Estate Practices	3.0
BRE 127	Real Estate Office Administration	3.0

**REAL ESTATE APPRAISER CERTIFICATE**

Units Required: 21.0

When completed, the Certificate program will give the student the basic skills and education necessary to become a real estate appraiser.

*Group I - All of the following must be completed:*

BRE 100	Real Estate Principles	3.0
BRE 120	Real Estate Appraisal	3.0
BRE 121	Advanced Real Estate Appraisal: Income Property	3.0
BRE 125	Taxes and Real Estate Investment	3.0
BRE 139	Real Estate Economics	3.0

*Group II - Any two of the following must be completed:*

BRE 126	Real Estate Finance	3.0
BESC 141	Escrow I	3.0
BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0

**REAL ESTATE SECRETARIAL SERVICES CERTIFICATE**

Units Required: 21.0 units minimum

The Certificate program will prepare the student for secretarial services within a real estate office by enhancing the practical knowledge of real estate and introducing computer applications in spreadsheets, database, and word processing.

*Group I - All of the following must be completed:*

BRE 100	Real Estate Principles	3.0
BRE 101	Real Estate Practices	3.0
BRE 110	Legal Aspects of Real Estate I	3.0
BESC 141	Escrow I	3.0
BET 65	Speedwriting	3.0

*Group II - Any two of the following must be completed:*

BRE 127	Real Estate Office Administration	3.0
BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0
BET 112	Spreadsheet: Excel for Windows A/B/C	3.0

**REAL ESTATE MARKETING CERTIFICATE**

Units Required: 24.0

This Certificate program prepares those interested in professionally marketing real estate by examining the elements which bring buyers and sellers together.

*Group I - All of the following must be completed:*

BRE 100	Real Estate Principles	3.0
BRE 126	Real Estate Finance	3.0
BRE 139	Real Estate Economics	3.0
BRE 142	Real Estate Marketing	3.0
BADM 112	Introduction to Marketing	3.0
BADM 116	Human Relations in Business	3.0

*Group II - Any two of the following must be completed:*

BADM 114	Sales	3.0
BRE 125	Taxes and Real Estate Investment	3.0
BADM 144	Business Communications	3.0

**Associate Degree**

To earn an Associate in Science degree with a major in Business Real Estate and Escrow, complete a minimum of 18 units from any of the certificate requirements

above or from any Business Escrow or Business Real Estate courses, and meet all Victor Valley College graduation requirements. BESC 138 (Cooperative Education) and BRE 138 (Cooperative Education) may be used as Elective credit but may not be used to fulfill major requirements.

**Transfer**

Not usually a transfer major. Many Business Escrow and Business Real Estate courses transfer as Electives or fulfill subject credit requirements. Students in this program often choose to pursue a bachelor's degree in Business Administration. See Business Administration for transfer requirements.

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**BUSINESS REAL ESTATE COURSES**

These classes are open to all students with an interest in Real Estate. They are not just for Licensees.

**BRE 51 MORTGAGE LOAN BROKERING AND LENDING**

Units: 3.0 - 48-54 hours lecture. Elective for Broker's License. (No prerequisite)

This course provides the student with the broad technical knowledge of both the state and federal laws governing the mortgage loan brokerage business and other lending practices in the state of California. General topics include disclosure statements, RESPA, fair lending practices, trust fund handling, hard money lenders, third party originators, reporting requirements, and securities in the lending industry. Satisfies one of the course requirements for a non-conditional real estate salesperson's license or for the real estate broker's examination.

**BRE 54 PRINCIPLES OF MORTGAGE ORIGATION**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course is designed to provide the student with basic skills needed to originate loans. It includes taking the borrower from the qualification process to designing a loan that will fit individual needs. This course helps demonstrate how to find the right loan among the maze of multiple programs available to the borrower.

**BRE 55 PRINCIPLES AND PRACTICES OF MORTGAGE PROCESSING**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course provides the student with the basics of loan processing and an overview of underwriting regulations and industry terminology. Students learn how to efficiently package and submit a loan for underwriting and approval. This course demonstrates how to analyze a loan application and relevant documents necessary for a loan submission. State and federal mandatory guidelines and disclosures are also discussed.

**BRE 56 INTRODUCTION TO FINANCIAL PLANNING**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

Financial planning draws upon several business disciplines such as finance, banking, insurance, and real estate as well as behavioral sciences that include economics and psychology. This course emphasizes the student's ability to analyze, evaluate, and make decisions regarding the components of personal financial planning. Discussion topics include the time value of money, managing money, the importance of life, health, disability, property and liability insurance, managing investments, tax planning, estate planning, retirement planning and more.

**BRE 60 ADVANCED REAL ESTATE APPRAISAL: COMPLIANCE AND REVIEW PROCEDURES**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course draws on the disciplines of real estate brokerage, finance, banking and appraisal with special attention to loss reduction due to underwriting and appraisal errors. Students with prior experience in the banking, mortgage, or appraisal industries will appreciate this course, however all are welcome. This course enhances the student's ability to analyze, understand and correct errors in real estate appraisals on federally required underwriting forms, narrative reports and electronic data exchanges. Discussion topics include appraisal analysis, valuation trends, demographic and census interpolation, reporting, communication and review. Uniform Standards of Professional Appraisal Practice will be discussed in relation to the forms reviewed.

**BRE 61 ADVANCED REAL ESTATE APPRAISAL LAND VALUATIONS**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course offers investigative techniques used to analyze and evaluate data leading to land valuation reports. Topics include discussion of soils analysis, topographic study, market analysis, environmentally affected properties, subdivisions, and more. This course is a continued education elective for the California Real Estate Broker's license and all four types of California real estate appraisers.

**BRE 62 ADVANCED REAL ESTATE APPRAISAL: THE NARRATIVE REPORT**

Units: 1.0 - 16-18 hours lecture. (No prerequisite)

This course offers and demonstrates the techniques designed to assist appraisers in effectively communicating the results of their valuation processes. Special emphasis is placed on the narrative portion of the form and/or complete self-contained type reports.

**BRE 100 REAL ESTATE PRINCIPLES**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Introductory course stressing the study of basic information in fundamental subjects in the field of real estate. Topics include legal aspects, legal descriptions, encumbrances, financing, escrow, contracts, taxation, subdivisions and zoning, appraisal, landlord/tenant relations, and arithmetic. Required course before testing for the Department of Real Estate Salesman's License. Elective for Real Estate Broker's License.

**BRE 101 REAL ESTATE PRACTICES**

Units: 3.0 -48-54 hours lecture. CSU. (No prerequisite)

Working practices in office listings and sales methods leading to competence. General basic course leading toward professionalism in real estate practice. Advanced topics involve prospecting and listing techniques, real estate agency and disclosure, selling and marketing techniques, advertising, office operations, finance, property management and real estate investment. Required for Real Estate Broker's license. Mandatory course before testing for the Real Estate Salesman's license.

**BRE 110 LEGAL ASPECTS OF REAL ESTATE I**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

A practical, applied study of California Real Estate Law which will help avoid legal difficulties arising from real estate transactions, instruments, zoning, and planning. This class is required for the Real Estate Broker's license and is an elective for the pretesting, educational requirements for the California Real Estate Salesman's license.

**BRE 120 REAL ESTATE APPRAISAL**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite.)

This course examines narrative appraisal reports, theories of valuation, studies in specific properties, neighborhood data, market research, cost analysis, causes of depreciation, and how to treat the misplaced valuation of residential properties. Course also covers how to start an effective "appraisal plan" and sources of information. This course is an elective for the pretesting, educational requirements for the California Real Estate Salesman's license.

**BRE 121 ADVANCED REAL ESTATE APPRAISAL: INCOME PROPERTY**

Units: 3.0 - 48-54 hours lecture. CSU. Elective for Broker's License. (No prerequisite)

Special emphasis given to income properties, how to obtain significant data and relate to the subject property,

the importance of thorough research, and the introduction of capitalization methods.

**BRE 125 TAXES AND REAL ESTATE INVESTMENT**

Units: 3.0 - 48-54 hours Lecture. Advanced Finance course for Real Estate Broker License. CSU. (No prerequisite)

Introductory real estate investment course discusses ownership interests, sources of financing, tax aspects of real estate ownership, market and cash flow analysis for income property, land investing, creative financing, and the laws dealing with foreclosure property investing.

**BRE 126 REAL ESTATE FINANCE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course offers a practical applied study and analysis of money markets, interest rates, and real estate financing with actual case illustrations. Cases demonstrate lending policies, problems, and rules involved in financing commercial and special purpose properties. This class is required for the Real Estate Broker's license and is an elective for the pretesting, educational requirements for the California Real Estate Salesman's license.

**BRE 127 REAL ESTATE OFFICE ADMINISTRATION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Designed for practicing real estate brokers, managers, or salespersons who plan to open their own office. This course emphasizes factors for success in real estate brokerage. Topics discussed include office location, organization, marketing, accounting, finance, property management, development and professional relations. Elective for the Real Estate Broker license.

**BRE 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**BRE 139 REAL ESTATE ECONOMICS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course offers a study of the economic aspects that impact real estate values and land use. Included is the government's role in the economy, money and credit, community growth patterns, land use controls, and the economic principles of capitalism. This class is required for the Real Estate Broker's license and is an elective for the pretesting, educational requirements for the California Real Estate Salesman's license.

**BRE 140 REAL PROPERTY MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Professional approach to the principles and practices of managing income properties. Topics include leases, rent schedules, collections, evictions, budgets, purchasing, market economics, taxation, maintenance, and record keeping. Elective for the Real Estate Broker's license and is an elective for the pretesting, educational requirements for the California Real Estate Salesman's license.

**BRE 142 REAL ESTATE MARKETING**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite)

A study of principles and processes involved in professionally marketing real estate. Course content includes: communication and marketing skills as practiced within the real estate industry, real estate advertising, target marketing, development of a marketing plan, product knowledge, people knowledge, qualifying both the buyer and the seller, negotiating and financing skills, and closing the escrow. Development of marketing tools including signs, maps, mail-outs and brochures, referrals, forms and media campaigns will also be covered.

**BRE 148 SPECIAL TOPICS**

See Special Topics listing (Variable units).

**BRE 149 INDEPENDENT STUDY**

See Independent Study listing (1-3 units).



**CHEMISTRY**

Chemistry is a central science. It is an integral part of biological, geological, medical and environmental sciences. Every sight, sound, touch, smell, taste, and even thought is a result of chemical processes. An understanding of chemistry helps to make sound decisions in our increasingly technological society.

Courses for non-majors are offered in addition to the rigorous sequence designed for majors and transfer students.

**Career Opportunities**

- Agricultural Technician
- Analytical Chemist
- Biochemist
- Synthetic Organic Chemist
- Environmental Chemist and Attorney
- Geochemist
- Chemical Engineer
- Materials Scientist
- Pharmaceutical Technician
- Laboratory Technician
- Science Teacher
- Technical Salesperson

**Faculty**

**Full Time**

- Thomas Basiri
- Thomas Kennedy

**Degrees and Certificates Awarded**

- Associate in Arts, Liberal Arts
- Associate in Science, Math/Science

**Certificate Program**

No certificate awarded.

**Associate Degree**

No associate degree is offered with a major in Chemistry. Chemistry courses may be used to fulfill requirements for an Associate in Science degree with a major in Math/Science. See Math/Science for degree requirements for this major. Chemistry courses may also be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major. CHEM 138 (Cooperative Education) may be used as Elective credit, but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Chemistry major*  
*Biochemistry major*

■ **University of California, Riverside**

*Chemistry major  
Biochemistry major*

## CHEMISTRY COURSES

### CHEM 50 FORENSIC CHEMISTRY

Units: 5.0 - 48-54 hours lecture and 96-108 hours laboratory. (No prerequisite)

This course introduces chemical and scientific techniques applicable to the analysis of physical evidence at a crime scene. Here, a crime is not limited to those against individuals. It also includes those against society such as environmental pollution, food adulteration and unsafe chemicals. The course is therefore applicable for students interested in entry level positions in a variety of fields including Administration of Justice, Anthropology and Government/Professional laboratories. A close relationship between theoretical lecture principles and field and laboratory methods is emphasized.

### CHEM 72 BIOMOLECULAR SCIENCE

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Recommended: BIOL 100 or BIOL 107)

This course is a theoretical approach to laboratory techniques common to modern biotechnical/clinical laboratories. Principles of molecular biology, genetics, metabolism, and immunology will be studied with emphasis on their application to modern analytical methods. Information and Communication technology will be used to develop formal writing and public speaking skills. See cross listing for BIOL 72.

### CHEM 100 INTRODUCTORY CHEMISTRY

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite)

An introductory course in general, organic, and biological chemistry. This course is specifically designed for students preparing for careers in allied health, such as nursing and various fields of therapy. The course satisfies general education requirements for non-majors and assumes no background in chemistry. Basic math skills are highly recommended.

### CHEM H100 HONORS INTRODUCTORY CHEMISTRY

Units: 6.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite)

A foundation in the fundamental concepts, theories, and methodologies of Introductory Chemistry is highly recommended. Critical thinking and analytical skills will be used to develop problem-solving strategies used in Chemistry. Emphasis will be on the use of

communication and information technologies in the analysis and presentation of experimental data.

### CHEM 114 ENVIRONMENTAL CHEMISTRY

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A course whose concern is "Can we survive?" indicating that we live in a chemical world, a world of drugs, biocides, fertilizers, nerve gases, defoliants, detergents, plastics, and pollutants, all molecular in nature, and all produced chemically. Consideration of alternative solutions. Regulatory agencies and their functions and limitations. Introduction of sufficient fundamental chemistry to make the practical applications intelligible.

### CHEM 120 INTRODUCTION TO NUTRITION

Units: 3.0 -48-54 hours lecture. CSU (No prerequisite) See cross listing for RMGT120.

This course focuses on the fundamentals of carbohydrates, proteins, fats, vitamins, minerals, and their roles in human metabolism. It is specifically designed for individuals directing nutrition programs, hospitals, and care centers of those acquiring degrees in allied health, child development, or restaurant management, as well as interested homemakers. Selected nutrition topics include personalized and vegetarian nutrition, menu planning, marketing options and chemistry of nutrition.

### CHEM 128 SPECIAL TOPICS

See Special Topics listing (Variable units). CSU, UC

### CHEM 129 INDEPENDENT STUDY

See Independent Study listing (1-3 units). CSU

### CHEM 138 COOPERATIVE EDUCATION

See Cooperative Education listing (1-8 units). CSU

### CHEM 201 GENERAL CHEMISTRY

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: CHEM 100 with a grade of 'C' or better, and MATH 90 or higher).

Theories of atomic structure and the application of these theories to an understanding of bonding, solution processes, state of matter, gas laws, general properties of matter, and principles of stoichiometric calculations. Laboratory emphasis on the development of experimental skills, the calculations and significance of experimental data.

**CHEM 202 GENERAL CHEMISTRY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: CHEM 201 with a grade of "C" or better, and MATH 90 or higher with a grade of "C" or better).

Emphasis on calculations of thermodynamics, kinetics, equilibria, acid-base chemistry, electrochemistry, coordination compounds and polymers. Survey of organic and biochemistry.

**CHEM 206 INTRODUCTORY CHEMISTRY II: ORGANIC CHEMISTRY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: CHEM 100 with a grade of "C" or better.)

An introduction to fundamental concepts of Organic Chemistry for students entering professional careers in allied health. Emphasis is on the structure, reactivity and mechanisms, chemical properties and nomenclature of major organic functional groups and their relationship to biological systems.

**CHEM H206 HONORS INTRODUCTORY CHEMISTRY II: ORGANIC CHEMISTRY**

Units: 5.0 - 64-72 hours lecture and 48-54 hours laboratory. CSU, UC

Modern organic synthesis, biotech, and pharmaceutical laboratories assess the feasibility of their proposed syntheses using computer generated models of target compounds. Current trends in modern research indicate a growing dependence on computational chemistry. This program will extend topics covered in CHEM 206 into basic concepts of computational chemistry. Emphasis will be on molecular modeling techniques, acquisition, processing, and presentation of experimental data.

**CHEM 207 INTRODUCTORY CHEMISTRY III: BIOCHEMISTRY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: CHEM 206 with a grade of "C" or better. Recent completion of CHEM 206 or equivalent is recommended.)

A one semester survey course in the fundamental principles of biochemistry for students entering professional careers in allied health. Emphasis is on the structure, function and physiological role of carbohydrates, lipids, proteins and nucleic acids.

**CHEM H207 INTRODUCTORY CHEMISTRY III: BIOCHEMISTRY HONORS**

Units: 5.0 - 64-72 hours lecture and 48-54 hours laboratory.

The application of molecular modeling techniques to biological macromolecules. Computer generated force-fields and molecular graphics will be used to study structural geometry, potential energy surfaces, energy gradients, bond energies, and bond angles.

Confirmational analyses will be performed to gain a practical understanding of the advantages and limitation of molecular modeling.

**CHEM 255 QUANTITATIVE ANALYSIS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: CHEM 202 or year course in General Chemistry)

Quantitative, gravimetric, volumetric, and instrumental methods of analysis. Stoichiometric calculations and applications of principles of chemical equilibrium to analytical problems. Laboratory accuracy required.

**CHEM 281 ORGANIC CHEMISTRY**

Units: 5.0 - 48-54 hours lecture and 96-108 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: CHEM 202 with a grade of "C" or better.)

An introduction to general principles of organic chemistry covering the structures, properties and reactivity of organic compounds. Emphasis is on molecular orbital theory, functional group reactivity, nomenclature, substitution and elimination mechanisms, stereochemistry, chemical equilibria and spectroscopy. Laboratory techniques include isolation, purification, synthetic procedures and spectroscopy. This is the first semester of a two semester sequence.

**CHEM 282 ORGANIC CHEMISTRY**

Units: 5.0 - 48-54 hours lecture and 96-108 hours laboratory. CSU, UC. (Prerequisite: CHEM 281 with a "C" or better).

Principles and experimental techniques developed in CHEM 8A are extended to include synthesis and identification, nomenclature, derivatives, spectroscopy, and reactions of functional groups, heterocycles, and aromatic compounds. Biochemistry of carbohydrates, lipids, proteins, nucleic acids, and other biologically significant compounds is also examined.



**CHILD DEVELOPMENT**

The Child Development program provides courses that prepare students to enter the field of early childhood education. Courses are designed to give students fundamental skills in working with children in a variety of settings, as well as a strong theoretical understanding of children's development.

**Career Opportunities**

- Child Development Center Administrator
- Child Development Center Teacher
- Child Life Specialist
- Early Childhood Education Specialist
- Elementary School Teacher
- Family Child Care Provider
- Juvenile Worker
- Nanny
- Recreation Department Programs
- Social Worker
- Special Education
- Therapist
- Tutor

**Faculty**

**Full Time**

- Marsha (Dee Dee) Cole
- Mary Sypkens
- Sandy Visser
- Joanne Eccleston, Emeritus

**Degrees and Certificates Awarded**

- Associate in Science, Child Development
- Level I: Associate Teacher Certificate of Achievement
- Level II: Teacher (preschool) Certificate of Achievement
- Level III: Supervisor (preschool) Certificate of Achievement

**Certificate Programs**

The Child Development Department offers three Certificates of Achievement preparing students for different levels of entry into the field.

**LEVEL I: ASSOCIATE TEACHER (PRE SCHOOL) CERTIFICATE OF ACHIEVEMENT**

Units Required: 22.0

**State and Federally Funded programs such as Head Start and State Preschool:** This certificate satisfies all educational requirements for the Associate Teacher Permit, issued by the State of California. **Students must also show evidence of meeting the Experience Requirement before applying for the Permit (see below).** Permit applications can be obtained through the Child Development Department.

**Private (Title 22) programs:** This certificate satisfies all educational requirements to be a fully qualified preschool teacher in such programs.

*All of the following must be completed with a grade of "C" or better:*

ENGL 50	Writing Fundamentals	4.0
OR		
ENGL 101	English Composition	4.0
CHDV 100	Child Growth and Development	3.0
CHDV 106	Child, Family, and Community	3.0
CHDV 110	Principles and Practices	3.0
CHDV 142	Health, Safety and Nutrition	3.0
CHDV 150	Introduction to Curriculum	3.0
CHDV 160	Observation and Assessment	3.0

*All course work must be completed with a "C" or better.*

**Experience Requirement necessary to apply for Child Development Permit.** Students must complete 50 days of experience, of 3 or more hours per day, within the last two years. **(THIS IS NOT NECESSARY FOR OBTAINING CERTIFICATE) Choose A or B:**

**Option A – For students already working in the field.**

A Verification of Experience Form must be complete and submitted with Permit Application.

**Option B – For students with no work experience in the field.**

CHDV 210 Practicum  
2 units of CHDV 138 (Work Experience) spread over two terms, completed within the last two years.

Please note: Returning students may substitute CHDV 127A for CHDV 110 Principles and Practices. Submit the "Course Substitution for Certificate Requirements" form, which can be obtained in the Admission and Records and Counseling Departments.

**LEVEL II: TEACHER (PRE SCHOOL) CERTIFICATE OF ACHIEVEMENT**

Units Required: 45.0

This certificate satisfies all requirements for the Teacher Permit, issued by the State of California. The permit qualifies one to hold positions at the teacher level in State and Federally Funded programs such as Head Start and State Preschool. Choose either Option A or Option B. (Permit applications can be obtained through the Child Development Department.)

**Option A – For students already working in the field.**

**All of the courses required for the Associate Teacher Certificate. PLUS:**

CHDV 200	Teaching in a Diverse Society	3.0
CHDV 210	Practicum	4.0

16 General Education Units (Must be Associate Degree Applicable), including one in each of the following categories.

- English (in addition to Eng 50)
- Humanities
- Social Science (Cannot be CHDV 106 or 106)
- Math or Science

*All coursework must be completed with a grade of "C" or better.*

**Experience Requirement necessary to apply for the Child Development Permit:** Evidence of working in an early childhood program for 175 days of 3+ hours per day within the past 4 years. Use the Verification of Experience Form, which is included in the Permit Application, to document this experience. **(THIS IS NOT NECESSARY FOR OBTAINING CERTIFICATE)**

**Option B –** For students with no work experience in the field.

All of the courses required for the Associate Teacher Certificate, plus completion of **all** other requirements for the A.S. degree in Child Development. (See a counselor to identify specific courses which will facilitate transfer to a university.)

**LEVEL III: SITE SUPERVISOR (PRE SCHOOL) CERTIFICATE OF ACHIEVEMENT**

Units Required: 60.0

This certificate satisfies all **EDUCATIONAL** requirements for the Site Supervisor Permit, issued by the State of California. This permit qualifies one to hold positions at the Site Supervisor level in State and Federally Funded programs such as Head Start and State Preschool. (See note below for information on how to obtain the **EXPERIENCE** requirements.)

Certificate Requirements Include:

**ALL** of the courses required for the Associate of Science Degree in Child Development including:

Child Development Courses: CHDV 100, 106, 110, 142, 150, 160, 200, 210

18 General Education Units as required for the AS Degree (CHDV 100 and 106 cannot be used to satisfy Social and Behavioral Science requirement)

CHDV 220, 239, and 240

*All coursework must be completed with a grade of "C" or better.*

**PLEASE NOTE:** Prior to applying for the Site Supervisor Permit, student must complete a Verification of Experience, documenting 350 days of work in an

early childhood program of 3+ hours per day within 4 years including at least 100 days of supervising adults. (Permit applications can be obtained through the Child Development Department.)

**Associate Degree**

To earn an Associate Degree in Science with a major in Child Development, complete CHDV 100, 106, 110, 142, 150, 160, 200, 210, and meet all other Victor Valley College Associate Degree graduation requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Human Development major*  
For information, you may wish to contact CSUSB's Human Development department at (909) 537-5570.
- **University of California, Riverside**  
*Human Development major*

**Local Bachelors Programs**

For information on the following programs located in the High Desert, please visit: [www.vvc.edu/offices/guidance\\_and\\_counseling/](http://www.vvc.edu/offices/guidance_and_counseling/) and select "Counseling Information Sheets":

- **Azusa Pacific University, High Desert Regional Center**  
*Human Development major*
- **Brandman University, Victor Valley Campus**  
*Early Childhood Development major*
- **University of La Verne, High Desert Campus**  
*Child Development major*

**CHILD DEVELOPMENT COURSES**

**CHDV 50 WORKING WITH YOUNG CHILDREN**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Pass/No pass)

This survey course provides an introduction to early childhood education. Classroom instruction and practical experiences will include child development, child guidance, health and safety issues and curriculum exploration. This course will provide a foundation for continued course work in the field.

**CHDV 100 CHILD GROWTH AND DEVELOPMENT**

Units: 3.0 - 48-54 hours lecture. CSU,UC. (No prerequisite. Successful completion of ENGL 50 or eligibility for ENGL 101.0 is strongly advised.)



A study of the child from conception through adolescence. This course addresses cognitive, physical, and social emotional development. Guidance for the developmental stages is included.

### **CHDV 106 CHILD, FAMILY AND COMMUNITY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

The scientific study of societal institutions which socialize the child, such as the family, school, peer group, community and media within the context of culture, religion, economics, politics and change. Major theoretical perspectives will be examined.

### **CHDV 110 PRINCIPLES AND PRACTICES**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite.)

This course provides an introduction to the critical principles and practices of the field of early childhood education. Emphasis is placed on introducing students to interaction strategies that build meaningful relationships, provide for guidance and discipline, and support play and exploration. Students will consider developmental theory and its implications on interaction through play and relationships. The course will provide a brief overview of the field of early childhood education, and introduce students to developmentally appropriate practices of observation, assessment and curriculum planning.

### **CHDV 111 INFANT AND TODDLER CAREGIVING**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

A study of the physical, perceptual, socio-emotional, cognitive development and behavior of the young child from birth to age three. Emphasis will be on the translation of theories of development to appropriate practices in the caregiving environment.

### **CHDV 115 FAMILY CHILD CARE PROVIDER**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite. Grade Option)

This course will address the many factors involved in providing quality child care in one's home. This course will cover how to set up a safe, healthy and stimulating environment that meets the developmental needs of the diverse ages served in family day care homes. Providers will develop or refine their business policies and procedures, parent contracts, and personal philosophy and goals. Additionally, training in preventive health practices will enable providers to partially fulfill AB 243 requirements.

### **CHDV 132 MONTESSORI METHODS OF EDUCATION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Grade Option)

This course is designed to introduce the student to Dr. Montessori's life, work, philosophy of education and classroom design. This will be accomplished through lecture, reading and exploration of her materials designed specifically for the education of the young child. Students will be exposed to a variety of such materials and will create materials to use in his/her own classroom.

### **CHDV 133 ART EXPERIENCES FOR YOUNG CHILDREN**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This curriculum course prepares students to support the young child's creative development. Students will select, develop, and present art materials and activities for young children. An understanding of appropriate developmental art experiences and the creative process will be stressed. Emphasis is placed on developing a classroom environment that promotes creative expression.

### **CHDV 134 LANGUAGE AND EARLY LITERACY DEVELOPMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course will focus on the young child's language acquisition and early literacy development. Emphasis will be on introducing students to developmentally appropriate activities and practices, which will foster language and early literacy. The course will allow students to develop curriculum materials. It will satisfy the program/curriculum requirement for licensing and credentialing.

### **CHDV 137 THE CHILD WITH SPECIAL NEEDS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course will provide the history of special education in the early childhood setting including an overview of legislation, assessment, curriculum development, and environmental issues. Students will identify the interrelationships of family, communities, and the early childhood educators.

### **CHDV 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

### **CHDV 141 BASICS OF SCHOOL-AGE CHILD CARE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

An introduction to appropriate practices in school-aged programs and curriculum based upon knowledge of the

social, emotional, physical, and cognitive development of the child ages six to twelve. Exploration of curriculum units that include creative art, music, and literature.

#### **CHDV 142 CHILD HEALTH, SAFETY, AND NUTRITION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course introduces the basic concepts of health, safety and nutrition which promote optimal health and positive attitudes toward wellness in the growing child at home and at school. Included will be identification and prevention of health problems; practical aspects of developing safe and healthy environments; and promoting good nutrition and food habits.

#### **CHDV 143 INTRODUCTION TO THE HIGH/SCOPE CURRICULUM**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course provides students with a working knowledge of the High/Scope curriculum model. This model stresses an active learning classroom based upon Jean Piaget's theories of child development. Course will cover origins of model, classroom arrangement, curriculum, adult/child interaction and observation techniques.

#### **CHDV 144 MATH AND SCIENCE EXPERIENCES FOR YOUNG CHILDREN**

Units: 2.0 - 32-26 hours lecture. CSU. (No prerequisite)

This class will focus on the preschool child's acquisition of science and mathematical concepts. Emphasis will be on introducing students to developmentally appropriate activities and practices which will foster development in these areas. This course will also focus on the teacher's (adult) role in establishing an environment rich in opportunities for self-directed activities and will assist teachers in developing science and math materials and activities.

#### **CHDV 145 MUSIC AND MOVEMENT EXPERIENCES FOR YOUNG CHILDREN**

Units: 2.0 - 32-36 hours lecture. CSU. (No prerequisite)

This course will introduce students to gross motor development in the early years and provide instruction on how to facilitate this development with movement activities. This course will also focus on musical activities and experiences through which children develop appropriate skills, concepts and attitudes. Students will select, develop and present music/movement activities leading to a comprehensive file of classroom activities to be implemented in one's own early childhood setting.

#### **CHDV 148 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU

#### **CHDV 149 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

#### **CHDV 150 INTRODUCTION TO CURRICULUM**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Eligibility for ENGL 50 or ENGL 101.0 recommended.)

The study and application of curriculum design principles for early childhood educational programs. Course includes planning and evaluating developmentally appropriate activities and experiences that promote physical cognitive, creative, social and emotional growth in children. Planning a comprehensive unit of study is also included.

#### **CHDV 160 OBSERVATION AND ASSESSMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (Prerequisites: CHDV 100, CHDV 106, CHDV 110 and CHDV 150 all with a grade of 'C' or better.)

This course offers an in-depth study of current observation and assessment approaches to understand and articulate development in children birth through age 8. Guided by developmental theory, students will learn how observation and assessment influence the design of early childhood settings, understanding and guiding child behavior, curricular plans, communication with families, and support program quality. Student must be aware that homework for this course involves observing children in a variety of settings. TB clearance advisory.

#### **CHDV 200 TEACHING IN A DIVERSE SOCIETY**

Units: 3.0 - 48-54 hours lecture. CSU. (Prerequisites: CHDV 100, CHDV 106, CHDV 110, CHDV 150 all with a grade of 'C' or better.)

This course is designed to help students become teachers who can explore and address diversity in ways that enhance the development of children in early childhood settings. It will address attitudes and behaviors toward others in the areas of culture, race, gender, age and abilities; the development of an anti-bias curriculum; the analysis of the classroom environment for culturally relevant and diverse materials and resources; as well as highlighting developmental issues and advocacy.

#### **CHDV 210 PRACTICUM**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. CSU. (Prerequisites: CHDV 100, CHDV 106, CHDV 110, CHDV 150 all with a grade of 'C' or better.)

This course focuses on the integration and application of child development theory to facilitate learning among young children. Students will complete 108 lab hours of supervised field experience at the campus Child Development Center or with an approved mentor teacher in the community. Emphasis is placed on developing effective teaching strategies, curriculum planning based upon observation and assessment, discipline and guidance techniques, cooperative relationships with staff and families, professional ethics and assessment of one's own professional competence. Current (within a year) medical verification of absence of tuberculosis (TB).

### **CHDV 220 THE MENTOR TEACHER/ADULT SUPERVISION**

Units: 2.0 - 32-36 hours lecture. CSU. (Prerequisites: CHDV 106 and CHDV 100, or equivalent, with a grade of "C" or better.)

A study of the methods and principles of supervising adults in early childhood programs. Emphasis is placed on the role of experienced classroom teachers/supervisors who function as Mentors to teachers while simultaneously addressing the needs of children, parents and other staff.

### **CHDV 239 ADMINISTRATION OF CHILDREN'S PROGRAMS I**

Units: 3.0 - 48-54 hours lecture. CSU. [Prerequisite: Completion of the State Department of Health required core courses (CHDV 106 and CHDV 100 or equivalent.) Currently working in the field recommended.]

This course focuses on funding, licensing, planning, organizing, and managing a variety of programs for young children. The administrator's role, site development, on-going organization, and working with the parents and volunteers explored. This course is designed to fulfill three of the six semester units of administration required for the site supervisor permit.

### **CHDV 240 ADMINISTRATION OF CHILDREN'S PROGRAMS II**

Units: 3.0 - 48-54 hours lecture. CSU. [Prerequisite: Completion of the State Department of Health required core courses (CHDV 106 and CHDV 100 or equivalent.) Currently working in the field recommended.]

This course explores the human relations aspect of administering children's programs. The emphasis will be placed on leadership styles, communication strategies, and promoting a positive climate for staff and children. This course is designed to fulfill three of the six semester units of administration required for the Site Supervisor Permit.

## **COMMUNICATION STUDIES**

Speech Communication is an expansive field which aims to: (1) analyze, understand, and facilitate effective expression of organized thought, and (2) facilitate successful interaction with self, others, society and the world. Skills developed within this field are readily applicable in daily life. A bachelor's degree in Speech Communication offers pathways to careers in law, education, government, public relations and advertising, arts and entertainment, social and human services, international relations and negotiations.

### **Career Opportunities**

Administrator  
Advertising  
Counselor  
Lobbyist  
Marketing Specialist  
Ministry  
News Anchor  
Public Information Officer  
Publicity Manager  
Speech Writer  
Teacher

### **Faculty**

Full Time  
Jacqueline Augustine-Carreira  
Ed Heaberlin  
Gregory Jones  
Steven McDevitt - Emeritus  
Theresa Mirci-Smith - Emeritus  
John Rude  
Marjorie Milroy - Emeritus

### **Certificate Program**

No certificates awarded.

### **Associate Degree**

No associate degree offered with a major in Speech Communication. Speech courses may be used to fulfill Electives and general education requirements.

### **Transfer**

To pursue a bachelor's degree in this field, CSUSB has a program that might interest you. For the most up-to-date information on this program and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**  
*Communication major*

## **COMMUNICATION STUDIES COURSES**

### **CMST 105 INTERCULTURAL COMMUNICATION**

Units: 3.0 - 48-54 hours lecture. CSU,UC. (No prerequisite.)

A course designed for the student to learn relevant intercultural communication elements, factors, and theories. Students will learn and be evaluated on: describing their cultural roots, creating an identity collage, defining worldview and cultural values, analyzing an intercultural encounter, describing an intercultural communication context, and exploring a specific intercultural topic. Students will demonstrate proficiency in the above through exams, individual and group presentations, and essays.

**CMST 106 INTERPERSONAL COMMUNICATION**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (UC credit limitation). (No prerequisite)

A course which examines human communication theory and principles across a variety of contexts. The course emphasizes analysis of communication variables as well as skill development and application.

**CMST 107 FAMILY COMMUNICATION**

Units: 3.0 - . 48-54 hours lecture. CSU. (No prerequisite)

An introduction to human communication in the setting of the family. The goal is to help the student understand how, through communication, people develop, maintain, enhance, or destroy family relationships. Students will study variables and the process of communication as they affect the interaction of their families and develop insight that will make it possible to apply this knowledge.

**CMST 108 GROUP DISCUSSION**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (UC credit limitation). (No prerequisite)

Practical application of the processes involved in group discussion with an emphasis on problem solving and decision making from structured to unstructured situations. Principles are applicable to groups as those found in schools, businesses, professions, and the family. This course is designed to develop interpersonal skills for thoughtful participation in a democratic society.

**CMST 109 PUBLIC SPEAKING**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A course designed for the student to learn how to prepare, organize, and deliver public speeches. Students will learn and be evaluated on: constructing a speaking outline, analyzing an audience, adapting to the occasion, and using effective speaking delivery techniques. Students will demonstrate proficiency in the above through the delivery of speeches in the classroom.

**CMST 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC

**CMST 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

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**COMPUTER INFORMATION SYSTEMS**

The Computer Information Systems (CIS) department provides training for those persons who plan to work within a technical, computer-centered environment. Because of the widespread use of computers in our society, employment opportunities are found in a multitude of different environments such as general business, communications industries, manufacturing, environmental engineering, education, medical technology, and banking and finance as well as computer information systems. The program is specifically designed to provide the student with practical training which would be valuable and useful in the computer programming workplace.

**Career Opportunities**

- Computer Operator
- Computer Operations Management
- Computer Training Specialist
- Data Administrator
- Data Control Clerk
- Data Entry Operator
- Documentation Clerk
- Education Specialist
- Electronic Graphics Artist
- Information Center Specialist
- Management Technical Assistant
- Microcomputer Technical Support
- Multimedia Specialist
- Network Administrator
- Network Specialist
- Network Support Specialist
- Production Control Clerk
- Programmer
- Programmer/Analyst
- Programming Librarian
- Quality Control Specialist
- Systems Analyst
- Technical Research Assistant
- Technical Support Specialist
- Technical Writer
- User Support Specialist
- Web Master
- Web Page Development

**Faculty**

- Full Time**
- Ed Burg
- Reiji Cass
- Shane Thomas
- Paul Tonning

**Degrees and Certificates Awarded**

Associate in Science, Computer Information Systems  
 Database Administration Certificate  
 MySQL Database Developer Certificate  
 NetWare Certificate  
 Network Specialist Certificate  
 Programming I Certificate  
 Programming II Certificate  
 Productivity Software Specialist Certificate  
 UNIX Administrator Certificate  
 Visual Basic Programming Certificate  
 Web Authoring Certificate

**Certificate Programs**

**DATABASE ADMINISTRATION CERTIFICATE**

Unit Required: 18.0

The Database Administration Certificate prepares the student with a foundation for database administration using the Oracle® database software.

*All of the following must be completed:*

CIS 105	Introduction to Systems Analysis	3.0
CIS 280	Fundamentals of Database Management Systems	3.0
CIS 281	Database Management	4.0
CIS 287A	Structured Query Language A (SQL A)	2.0
CIS 287B	Structured Query Language B (SQL B)	2.0
CIS 288A	Oracle® A	2.0
CIS 288B	Oracle® B	2.0

**MySQL DATABASE DEVELOPER CERTIFICATE**

Units Required: 11.0

The MySQL Database Developer Certificate is a high quality certification process that will provide evidence that a qualifying individual has skill in developing production relational MySQL database applications. By being certified, clients, customer, and employers are ensured that the database developer is competent and professional.

*All of the following must be completed with a grade of "C" or better:*

CIS 91A	MySQL Administration A	2.0
CIS 91B	MySQL Administration B	2.0
CIS 96A	Structured Query Language A Using MySQL	2.0
CIS 96B	Structured Query Language B Using MySQL	2.0
CIS 280	Fundamentals of Database Management Systems	3.0

**NETWARE CERTIFICATE**

Units Required: 16.5

Provides the student with training in the popular network environment of Novell NetWare.

*All of the following must be completed:*

CIS 101	Computer Literacy	4.0
CIS 252	NetWare 6 Advanced Administration	2.5
CIS 67	Fundamentals of Networking	2.5
CIS 72	Novell NetWare 6 Basic Administration	2.5
CIS 77	NetWare Service and Support	2.5
CIS 79	NDS Design and Implementation	2.5

**NETWORK SPECIALIST CERTIFICATE**

Units Required: 16.5

This certificate program prepares the student to begin a career in the computer networking field and working and administering a variety of popular network platforms including UNIX, Microsoft and Novell.

*All of the following must be completed:*

CIS 123	Introduction to Operating Systems: UNIX	3.0
CIS 124	Fundamentals of Data Communication	2.0
CIS 50	Computer Ethics	2.0
CIS 67	Fundamentals of Networking	2.0

*Choose one of these two options:*

CIS 139	Windows XP For Power Users	4.0
OR		
CIS 240A	Windows 2000 Professional	

*Choose one of these three options:*

CIS 240B	Windows 2003 Server Administration	4.0
OR		
CIS 72	Novell NetWare 6 Basic Administration	1.5
& CIS 252	NetWare 6 Advanced Administration	2.0
OR		
CIS 261	UNIX System Administration A	2.0
& CIS 262	UNIX System Administration B	2.0

**PROGRAMMING I CERTIFICATE**

Units Required: 27.0

This certificate trains the student to become a programmer with some of the most popular programming such as C and Visual BASIC.

*All of the following must be completed:*

CIS 50	Computer Ethics	2.0
CIS 64	Computer Mathematics	3.0
BADM 144	Business Communications	3.0
CIS 101	Computer Literacy	4.0
<i>OR</i>		
CIS 103	Foundations of Computer Technology	4.0
CIS 105	Introduction to Systems Analysis	3.0
CIS 201	C++ Module A	4.0
CIS 202	C++ Module B	4.0
CIS 210	Visual BASIC Programming	4.0
<i>OR</i>		
CIS 206A & CIS 206B	Java A Java B	2.0 2.0

**PROGRAMMING II CERTIFICATE**

Units Required: 22.0

Completion of this certificate makes the student well versed in most popular programming languages and ready for business and highly technical software development.

*All of the following must be completed:*

CIS 104	Object-oriented Software Design	3.0
CIS 108	Assembly Language Programming	3.0
CIS 203	C++ Module C	4.0
CIS 50	Computer Ethics	2.0
CIS 64	Computer Mathematics	3.0
BADM 144	Business Communications	3.0
CIS 211	Advanced VB Programming A or B or C	4.0
<i>OR</i>		
CIS 206A & CIS 206B	Java A Java B	2.0 2.0

**PRODUCTIVITY SOFTWARE SPECIALIST CERTIFICATE**

Units Required: 25.0

This certificate trains the student to become a well-rounded microcomputer user skilled in all the software that is common in business offices.

*Group I - All of the following must be completed:*

CIS 101	Computer Literacy	4.0
<i>OR</i>		
CIS 103	Foundations of Computer Technology	4.0
CIS 280	Fundamentals of Database Management Systems	3.0
CIS 111	Multimedia Presentations	4.0
CIS 136	Introduction to Internet/WWW	2.0
CIS 139	Windows XP For Power Users	4.0
BET 112	Spreadsheet: Excel for Windows A/B/C	3.0
BADM 144	Business Communications	3.0

*Group II - 3 units of the following must be completed:*

BET 104	Beginning Word Processing/Typing: Word for Windows A/B/C	3.0
BADM 106	Accounting on Microcomputers	2.0
BADM 107	Accounting on Microcomputers	2.0

**UNIX ADMINISTRATOR CERTIFICATE**

Units Required: 14.0

The UNIX Administrator Certificate is a high quality certification process that will provide evidence that a qualifying individual has skill in designing, implementing and maintaining UNIX and Linux based networks. By being certified, clients, customers, and employers are ensured that the UNIX administrator is well equipped to handle the day-to-day operations associated with a UNIX based network as well as the unforeseen problems that tend to arise in any network.

*All of the following must be completed with a grade of "C" or better:*

CIS 50	Computer Ethics	2.0
CIS 90	Introduction to UNIX Operating System	4.0
CIS 93	PERL	2.0
CIS 261	UNIX System Administration A	2.0
CIS 262	UNIX System Administration B	2.0

**VISUAL BASIC PROGRAMMING CERTIFICATE**

Units Required: 16.0

This certificate program provides the student with solid, in-depth training in developing applications with Visual Basic, one of today's most widely used programming languages.

*All of the following must be completed:*

CIS 210	Introduction to Visual Basic Programming	4.0
CIS 211A	Advanced VB Programming A	4.0
CIS 211B	Advanced VB Programming B	4.0
CIS 211C	Advanced VB Programming C	4.0

**WEB AUTHORIZING CERTIFICATE**

Units Required: 14.0

This certificate provides the student solid training in developing web pages.

*All of the following must be completed:*

CIS 121	Introduction to Flash	4.0
<i>OR</i> CIS 111	Multimedia Presentations	4.0
CIS 136	Introduction to Internet/WWW	2.0
CIS 137	Introduction to HTML	2.0

CIS 205	Javascript	4.0
CIS 50	Computer Ethics	2.0

**Associate Degree**

To earn an Associate in Science degree with a major in Computer Information Systems, complete a minimum of 18 units from any of the certificate requirements above or from any Computer Information Systems courses and meet all Victor Valley College graduation requirements. CIS 138 (Cooperative Education) may be used as Elective credit, but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

*Note: Typically, majors in Computer Science require the following courses taken prior to transfer: CHEM 201, CIS 201, 202; ECON 102; MATH 226, 227, 228, 231; PHYS 201, 203, 202, H204. An alternative to the CIS transfer major that appeals to many students is Administration, with an emphasis in CIS. See Business Administration.*

- **California State University, San Bernardino**

*Computer Science major  
Computer Systems major  
Computer Engineering major*

- **University of California, Riverside**

*Computer Science major  
Computer Engineering major*

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## COMPUTER INFORMATION SYSTEMS COURSES

**CIS 50 COMPUTER ETHICS**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

This course is an introduction to the theories and issues of ethical behavior as applied to the exigencies of a rapidly changing, information-oriented, computer-driven society. Topics include ethical history, philosophies, and issues at the responsibility level of both corporate business and the individual. Various ethical theories are introduced and discussed. Numerous current and past case histories are presented.

**CIS 56 PROJECT MANAGEMENT**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course will provide the student with the skills necessary to manage projects using Microsoft Project. The student will be introduced to Gantt and PERT charts, the concept of a critical path, resource

scheduling and leveling, and other concepts used in managing large projects. Efficient use of resources, people and equipment, will be emphasized.

**CIS 64 COMPUTER MATHEMATICS**

Units: 3.0 - 24-27 hours lecture and 48-54 hours laboratory. (No prerequisite.)

Computer mathematics for the computer science major. Introduction to number bases, set theory, Venn diagrams, logic, Boolean algebra, algebraic expressions, exponents, linear and quadratic equations, matrices, mathematical sequences and series, linear programming and logarithmic functions.

**CIS 67 FUNDAMENTALS OF NETWORKING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory OR 96-108 hours individualized instruction. (No prerequisite. Recommended preparation: CIS 101.)

This course presents a broad overview of the fundamentals of networking computers. It discusses in some detail the various network topologies, architectures, industrial standard, standards-defining organization, and the practical use of networks. This course is designed to prepare students to take the Network+ certification exam from CompTIA.

**CIS 72 NOVELL NETWARE 6 BASIC ADMINISTRATION**

Units: 2.5 - 24-27 hours lecture and 48-54 hours laboratory OR 80-90 hours individualized instruction. (No prerequisite)

This course provides instruction on the fundamentals of system administration for NetWare 6x. It is designed to provide students with the necessary knowledge and skills to perform competently in the role of network administrator or system manager. Students completing this course will be able to accomplish basic and fundamental network management tasks in a NetWare 6x environment. This course is highly recommended for those seeking the Certified NetWare Engineer certification from Novell Corporation and for new NetWare 6x administrators.

**CIS 75 INTRODUCTION TO NETWORK SECURITY: NETWORK+**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory OR 96-108 hours individualized instruction. (No prerequisite)

Presents security topics covering general security concepts, communications security, infrastructure security, basics of cryptography, operational and organizational security. Topics include hacking, viruses, cryptography, detection and prevention on both wired and wireless LANs.

**CIS 79 NOVELL DIRECTORY SERVICES DESIGN AND IMPLEMENTATION**

Units: 2.5 - 32-36 hours lecture and 24-27 hours laboratory. CSU (Prerequisite: CIS 72)

This course teaches network administrators, network designers, and networking consultants the skills needed to create a Novell Directory Services (NDS) design and implementation strategy. Students will complete an NDS design and strategy implementation schedule using templates that can be reused to create a design for their workplace.

**CIS 80 OPERATING SYSTEMS: MAC OS X**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No Prerequisite)

This course introduces the Mac OS X operating system. Topics include the graphical user interface, OS X preferences, account management, spotlight, disk management, printing, networking, program installation and removal, system security, email, Internet access, display management, address book, calendaring, voice over IP, instant messaging, quicktime, and support.

**CIS 81 ILIFE APPLICATIONS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No Prerequisite)

This course is designed for the beginning Apple user who wants to get the full use out of their computer's capability to create, modify and design digital images, music, videos (home movies) and podcasts.

**CIS 83 PROGRAMMING IN PYTHON**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite)

Python is a popular programming language that has taken a primary role in many companies including NASA, Google, Industrial Lights and Magic. Python uses an elegant syntax, making the programs easier to write and read, which also makes it an ideal language for beginning programmers. The foundation that students achieve can be applied to digital animation programs, and game programming. No prior programming experience is assumed.

**CIS 90 INTRODUCTION TO THE UNIX OPERATING SYSTEM**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite)

This course introduces the Unix and Linux operating systems. Topics include the history of Unix, commands and utilities, file system structure, shells, graphical user interfaces, networking, text editing and shell programming.

**CIS 91A MYSQL ADMIN A**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. (No Prerequisite)

This course is designed to provide students with an introduction to the MySQL relational database management system. Students will learn how to design, install, configure and secure MySQL databases. The student should have prior experience with the fundamentals of databases.

**CIS 91B MY SQL ADMIN B**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. (No Prerequisite)

This second course in MySQL database administration is designed to provide students with an advanced approach to current database administration issues in enterprise level databases. Topics include: transactions, multiple servers, replication, locking and administration interfaces.

**CIS 93 PERL**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite)

This course is designed to provide students with an understanding of the Perl scripting language used in Unix and Linux systems. Students will learn how to design and implement dynamic scripts through strings, operators, variables, arrays, control structures, expressions, functions, file handles and database access controls.

**CIS 94 PHP PROGRAMMING**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite)

This course is designed to provide students with an introduction to programming web-based applications using PHP. Students will learn how to design, code and implement dynamic web sites. This course will move the student from an understanding of XHTML to the development of powerful web applications that can be deployed over the Internet.

**CIS 95 PHP+MYSQL WEB APPLICATION**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite)

This course focuses on providing students experience with advanced programming of web-based applications using PHP+MySQL. Students will learn how to design, code and implement data driven web sites. This course will move the student from an understanding of PHP (Hypertext Preprocessor) to the development of powerful web applications that can be deployed over the Internet or the intranet.



**CIS 96A STRUCTURED QUERY LANGUAGE**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. (No Prerequisite)

This is the first of two courses in Structured Query Language using the MySQL database management system. Topics include concepts of relational databases and SQL, creating and using databases and performing queries.

**CIS 96B STRUCTURED QUERY LANGUAGE**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. (No Prerequisite)

This is the second course in Structured Query Language using the MySQL relational database management system. Topics include: Joins, IF/Case statements, indexing, batch operations and locking strategies.

**CIS 97 XML (EXTENSIBLE MARKUP LANGUAGE) PROGRAMMING**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite)

This course introduces students to the foundations that comprise the XML family of technologies. Topics include: well-formed XML syntax rules; validation of XML using DTDs and Schemata; introductory DOM and SAX Scripting; creating XML data islands on XHTML pages; using CSS, XSL, XSL-FO and XSLT to style XML content; move data to/from databases using XML; and several advanced topics.

**CIS 101 COMPUTER LITERACY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

This is a survey course which provides an overview of computer technology for multi-disciplinary majors. Using laboratory projects supported by the lecture, the student gains "hands-on" familiarity with different operating systems, word processors, spreadsheets, database management systems, programming, networks and the use of the Internet (or the Information Superhighway).

**CIS 104 OBJECT-ORIENTED ANALYSIS AND DESIGN**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite, Grade Option)

This is a first course in the object-oriented modeling and design, a new way of thinking about problems using models organized around real-world concepts. The fundamental object-oriented construct is the object, which combines both data structure and behavior in a single entity. Object-oriented models are useful for understanding complex problems, communicating with

application experts, modeling enterprises, preparing documentation, and designing programs and databases. This course is a prerequisite to all object-oriented programming language courses for it provides a requisite baseline working knowledge of unique object-oriented concepts and structure such as classes, objects and methods, encapsulation, inheritance, polymorphism and message abstraction, and static virtual methods.

**CIS 105 INTRODUCTION TO SYSTEMS ANALYSIS**

Units: 3.0 - 48-54 hours lecture. CSU. Offered Spring. (No prerequisite)

Introduces the three major skills required to perform effectively as a beginner in a systems analysis environment. Defines the specific steps in the determination of new systems' requirements, system design, and the creative process used to select and make recommendations as to one or more solutions to system development.

**CIS 106 INTRODUCTION TO COMPUTER TECHNOLOGY FOR EDUCATORS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

A survey course which provides an overview of computer technology for multi-disciplinary majors, but with emphasis on its role in educational settings. The course provides instruction in a variety of topics supported by hands-on laboratory work with operating systems, word processing, spreadsheets, databases, desktop publishing, programming, networks, and the Internet. Application and evaluation of computer technology in learning environments serves as the overall framework. See cross listing for ETEC 106.

**CIS 107 INTRODUCTION TO THE INTERNET FOR EDUCATORS**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. CSU (No prerequisite)

A course for education students or current teachers to acquire the skills needed to effectively utilize the Internet in the classroom. Emphasis will be placed on computer-mediated communication with the World Wide Web. Students will become well versed in the use of Web browsers, FTP, newsgroups/asynchronous discussion, e-mail, and chat/synchronous discussion. See cross listing for ETEC 107.

**CIS 108 ASSEMBLY LANGUAGE PROGRAMMING**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

Designed to train students to prepare and write the basic assembly language programs for microcomputer systems in both business and scientific applications.

**CIS 111 MULTIMEDIA PRESENTATIONS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

Students gain experience in developing multimedia presentations while gaining an understanding of multimedia technologies. In acquiring "hands-on" experience in producing and presenting multimedia presentations, the student will also actively create audio files, full-motion, video clips, graphics, animation sequences, and the text used in the final production. Additional subjects which will be covered include the basic principles for effective communications, scripting, logical control of peripheral devices, and runtime packaging.

**CIS 120 INTRODUCTION TO MACROMEDIA DREAMWEAVER**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option)

This course teaches students how to use the web-authoring tool Dreamweaver. Covered topics include Dreamweaver basics, website set-up, animation, multimedia, and more.

**CIS 121 INTRODUCTION TO FLASH**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option)

Flash is an advanced tool for creating graphics, animation, multimedia components that can be incorporated into other software applications such as web pages, or can function on their own. This is a beginning course on Flash. It teaches students the Flash basics, graphics, texts, layers, symbols, frames, animations, tweens, interactivity, action scripts, etc.

**CIS 124 FUNDAMENTALS OF DATA COMMUNICATIONS**

Units: 2.0 - 32-36 hours lecture. CSU. (No prerequisite)

This course presents the general computer user with a basic understanding of data communications with added emphasis on telecommunications. The course includes analog and digital transmission concepts, networks, protocols, operating systems, local area networks (LANs), network architectures, network topologies, security, error detection and correction codes.

**CIS 136 INTRODUCTION TO THE INTERNET**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. CSU. (No prerequisite)

This course of instruction is designed for the student or savvy business person who wants to acquire the skills needed to effectively interact and utilize the resources of the Internet and its newer component, the World Wide

Web (WWW). By completing this course, a student will become well versed in the understanding and using of browsers and viewers, FTP (File Transfer Protocol), news groups, e-mail, and chat/conversation utilities. They will also be made aware of some of the other concerns relating to using the Internet, such as privacy and security issues.

**CIS 137 INTRODUCTION TO HTML**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. CSU. (No prerequisite.)

This course is designed for the student or business person who wants to acquire the skills needed to create a presence on the WWW (World Wide Web ) in the form of a Web Page. The student will become conversant with HTML (Hypertext Mark-up Language) and able to use HTML for Web Authoring (designing, implementing, and maintaining). Several tools will be explored, such as but not limited to, text editors, WYSIWYG (what you see is what you get) editors, and tag editors.

**CIS 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**CIS 139 WINDOWS FOR POWER USERS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Recommended preparation: CIS 101.)

Students will gain experience in installing, navigating, configuring, optimizing, troubleshooting, and customizing the current version of Windows. Additional subject which will be covered include networking, disk management, diagnostics and using the Internet.

**CIS 201 C++MODULE A**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No Prerequisite. CIS 101 recommended)

An introduction to programming using the C++ language. This course is appropriate for those wishing to learn the principles of computer programming and to gain some initial experience with C++.

**CIS 202 C++MODULE B**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisites: CIS 201 with a minimum grade of "C")

The second in the C++ series, this course teaches the student who is familiar with the language how to use its object-oriented features in depth. Subject matter includes: designing and implementing classes, abstract

data types, overloading operators, inheritance, and polymorphism.

### **CIS 205 JAVASCRIPT**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

JavaScript is the only wide-spread programming language for web pages on virtually all browsers. By incorporation JavaScript into HTML documents, web page contents become dynamic, personalized and interactive. Even with server-side technology, such as ASP.NET and PHP, JavaScript is still a must since many features such as mouseover, etc., are not supported by any server-side programming. This course teaches students how to program using JavaScript from the beginning; it also prepares students for more advanced web development courses including ASP.NET and PHP.

### **CIS 206A PROGRAMMING JAVA MODULE A**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. CSU. (No prerequisite)

This is an introductory course for programming in Java. The course will cover the basics of the Java programming language and object oriented programming method. Some of the more advanced topics such as applets programming data structure implementation in Java will also be covered.

### **CIS 206B JAVA PROGRAMMING B**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. CSU. (Prerequisite: CIS 206A with a minimum grade of "C", Grade Option)

This is a second course in Java programming. The course will review the basics of the Java language and object oriented programming. The main topics of the course include Java applet programming and networking with Java.

### **CIS 210 PROGRAMMING IN VISUAL BASIC**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite.)

Visual Basic is the world's most popular programming language used for application development. This course is based on the latest VB.NET. VB is an object-oriented programming language suitable not only for Windows applications, but also for Web applications. While retaining its advantages in ease of learning, efficiency at developing sophisticated applications, VB.NET has now added an array of powerful features such as Web forms, mobile controls, support for XML, full compatibility with other languages (such as C#, Visual C++, Cobol, NET), etc. Students will learn all the programming basics using VB.NET, as well as being exposed to topics such as

Object-Oriented programming, Database programming, and Web programming.

### **CIS 211A ADVANCED VB PROGRAMMING MODULE A: ADVANCED TOPICS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CIS 210. Recommended: CIS 104)

This is an advanced programming course using VB.NET. The course focuses on developing Object-Oriented applications using the latest Microsoft .NET technology. Topics covered include .NET Framework and CLR, class implementation, inheritance, polymorphism, exception handling, multithreading, developing custom controls for Windows forms and Web forms, etc.

### **CIS 211B ADVANCED VB PROGRAMMING MODULE B: DATABASE PROGRAMMING**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (Prerequisites: CIS 210 and CIS 280, or equivalent)

This is an advanced programming course using VB.NET. The course focuses on developing desktop/Web applications using Microsoft's new ADO.NET technology. ADO.NET, based on XML, provides platform interoperability and scalable data access. Topics covered include the .NET Framework, ADO.NET, SQL, DataSet, XML, ADO.NET classes libraries, Web Services, etc.

### **CIS 211C ADVANCED VB PROGRAMMING MODULE C: WEB PROGRAMMING**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (Prerequisites: CIS 210 and CIS 205, or equivalent. Recommended: CIS 261 and 262)

This is an advanced programming course using VB.NET. The course focuses on developing Web applications using Microsoft's ASP.NET technology. ASP.NET is a powerful server-based technology, designed to create dynamic Web sites and Web-based distributed applications, or corporate intranet applications. Topics covered include the .NET Framework, ASP.NET class libraries, Web forms, ASP.NET Server controls, ASP.NET Data Access. XML and Web Services, ASP.NET mobile controls, etc.

### **CIS 240A WINDOWS VISTA PROFESSIONAL**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 101 or equivalent)

An introduction to operating system design and operation using Windows Vista Professional version. Topics include: the design and philosophy of the

Windows vista operating system, the differences between various Windows Vista versions, user issues in Windows Vista such as using Vista's Graphical User Interface, and basic installation issues. Emphasis will be given to comparing Windows Vista Workstation and Windows 2003 Server. Hands-on experience will be stressed.

**CIS 240B INTRODUCTION TO MICROSOFT WINDOWS 2003 SERVER ADMINISTRATION**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CIS 240A or equivalent).

Students will learn how to administer a Windows NT Server system on a network. Topics include: installation, user management, security, performance issues, domains, World Wide Web and related services, using NT and other network operation systems, network printing, the NT registry, backups, and setting up applications.

**CIS 252 NETWARE 6 ADVANCED ADMINISTRATION**

Units: 2.5 - 32-36 hours lecture and 24-27 hours laboratory. CSU. (Prerequisite: CIS 72 with a grade of 'C' or better.)

Equivalent of Novell Course 3043. Learn the advanced skills involved in the administration of NetWare networks, including improving the performance of your network and server, managing Novell directory Services (NDS) partitioning and replication, time synchronization strategies and integrating NetWare. It is one of five courses needed for Certified NetWare Engineer certification (CNE).

**CIS 261 UNIX SYSTEM ADMINISTRATION A**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 90 with a grade of 'C' or better.)

UNIX system administrators are responsible for the operation of UNIX systems—the most common server platform on the Internet. Learn how to setup, manage, and maintain UNIX systems. Topics include: the role of the system administrator in an organization, UNIX variants, installation, booting and shutting down, backups, managing users.

**CIS 262 UNIX SYSTEM ADMINISTRATION B**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite.)

This second UNIX system administration course covers advanced UNIX administration topics, including system security, setting up and managing Internet services such as Hypertext Transfer Protocol, File Transfer Protocol, and e-mail.

**CIS 280 FUNDAMENTALS OF DATABASE MANAGEMENT SYSTEMS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

This course provides an in-depth knowledge of several different database management systems (DBMS) and an understanding of the basic relational, network, or hierarchical database structures which they use. Issues of privacy, security, protection, integrity, redundancy, distributed database concepts, data manipulation and query languages are covered. Students will learn how these concepts and facilities are implemented on common microcomputer-based DBMS products and will learn "hands-on" how these common features are implemented in a variety of such products.

**CIS 281 DATABASE MANAGEMENT**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CIS 280 or equivalent)

This course teaches students the concepts and implementation of a relational database model and object-oriented database model. This course covers the common languages used for data manipulation and information retrieval. The course is a practical approach to train students to analyze design and create databases for businesses and organizations.

**CIS 287A STRUCTURED QUERY LANGUAGE A**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 280 with a grade of 'C' or better.)

First module of manipulating data and databases using Structured Query Language (SQL). Topics include concepts of databases and SQL, creating and using databases, and performing queries.

**CIS 287B STRUCTURED QUERY LANGUAGE B**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 287A with a grade of 'C' or better.)

The second course teaching the management of data and databases using Structured Query Language (SQL). Topics include: working with multiple tables, data normalization, views, indexes, dealing with data problems, and improving the performance of data manipulation.

**CIS 288A ORACLE A**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 280; Recommended preparation: CIS 281)

An introduction to using the Oracle relational database management system. This is the first of two modules. Topics include the structure, nature, and use of databases, working with database projects, dealing with the various data types, and querying databases.

### **CIS 288B ORACLE B**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 288A or equivalent)

This second course on Oracle continues instruction on the Oracle relational database management system. Topics include using database administration tools, querying databases, keeping data safe and secure, and using databases in group environments.

### **CIS 290A MS SQL SERVER ADMINISTRATION A**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 280 with a grade of 'C' or better. Recommended Preparation: CIS 281)

The MS SQL Server is Microsoft's database server software. This course teaches students how to administer the database system using MS SQL Server. This course discusses the basics of client/server database computing, the planning and installation of SQL Server, and normal operation of SQL Server.

### **CIS 290B MS SQL SERVER ADMINISTRATION B**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 290A with a grade of 'C' or better.)

The MS SQL Server is Microsoft's database server software. This course is the continuation of CIS 290A. It will review the basic features of SQL Server administration and then focus on advanced topics of using SQL Server such as performance and tuning.



## **COMPUTER INTEGRATED DESIGN AND GRAPHICS (CIDG)**

### **Design Your Future**

The Computer Integrated Design and Graphics (CIDG) at Victor Valley College is growing to keep pace with our High Desert community. We have many new and exciting courses, programs, and certificates to meet the needs of our students. Our focus is on designing courses and certificate programs that will provide students with the knowledge and skills to secure a job in a career field that has unlimited potential.

The cornerstone of the department remains our Computer Aided Drafting & Design (CADD) program. There are five new certificates that have been designed to meet the needs of students new to the field of CADD and those experienced professionals looking to upgrade their software knowledge. A core certificate is offered for students with a limited knowledge of drafting, mathematics and blueprint reading. (Drafting Technician I) Two entry-level certificates are offered in the areas of CADD and Computer Animation. We have also included two specialized certificates in the areas of Architectural CADD and Civil CADD.

The Computer Animation Program has a new certificate that will help prepare students for entry-level positions in the animation industry. Our Animation Program covers such topics as character animation, working with color, texture, lighting, cameras, sound and 3D art. The primary software package taught is Autodesk's 3ds Max while additional software such as Character Studio and Adobe Photoshop are used to supplement the curriculum.

A third program, and newest within our CIDG Department is our Geographic Information Systems (GIS). We are very excited about our GIS program and believe there will be many job opportunities for our students who complete this certificate, and we hope to add more certificates in the future. GIS helps fire/rescue and EMS protect life and property using information and analysis as a powerful tool. GIS puts spatial intelligence at the fingertips of dispatchers and field personnel ensures proper response time. GIS is essential for all phases: preparation, mitigation, response, and recovery of Emergency and Disaster Management. Law Enforcement can use GIS to discover how to leverage data collected each day to create intelligence you can use and share. Federal, state, local, and tribal agencies use GIS to support the homeland security mission. Wildland Fire Management accesses GIS information to increase safety, efficiency, and resource management.

#### **Career Opportunities**

##### **GIS Careers**

- GIS Specialist
- GIS Technician
- GIS Fire Analyst
- GIS Project Manager

Emergency and Disaster Management  
 Wildland Fire Management  
 Homeland Security  
 Law Enforcement  
 Fire/Rescue

**CAD Careers**

Architect  
 Architectural Drafter  
 CAD Management  
 CAD Operator  
 Cabinet Shop Detailer  
 Civil Drafter  
 Computer Animator  
 Community College Instructor  
 Construction Technician  
 Desk-Top Publisher  
 Electrical Drafter  
 Electronics Drafter  
 GIS Technician  
 Graphics Designer  
 Interior Designer  
 Landscape Architect  
 Landscape Designer  
 Mapping Specialist  
 Mechanical Drafter  
 Public Works Technician  
 Rendering Specialist  
 Steel Fabricator Drafter  
 Structural Drafter  
 Technical Illustrator

**Animation Careers**

3D Modeler  
 Texture Artist/Painter  
 Lighting Specialist  
 Character Designer  
 Character Animator  
 Special F/X Animator  
 Game Level Designer  
 Storyboard Artist  
 Background Artist  
 Graphic Designer

**Faculty**

**Full Time**

Claude Oliver  
 Shuron Taylor  
 Gary Menser  
 Steve Nelle

**Degrees and Certificates Awarded**

Associate in Science, CIDG  
 Drafting Technician I Certificate  
 CADD I Technician  
 Architectural CADD Technician I Certificate  
 Civil CADD Technician I Certificate  
 Digital Animation Technician I Certificate - 3ds Max  
 Digital Animation Artist Certificate  
 Visual Communications Graphic Design Certificate  
 Visual Communications Print Production Certificate

Geographic Information Systems for Emergency  
 Response and Management Certificate

**Certificate Programs**

**DRAFTING TECHNICIAN I CERTIFICATE**

Units Required: 12.0

Select at least 6 units from Group I and 6 units from Group II

*Group I*

CIDG 101	Introduction to Drafting	3.0
CIDG 103	Blueprint Reading for Construction	3.0
CIDG 104	Blueprint Reading for Industry	3.0
CT 105	Technical Sketching	3.0

*Group II*

CT 107	Technical Mathematics	3.0
CT 108	Advanced Technical Math	3.0
MATH 90	Intermediate Algebra	4.0
MATH 104	Trigonometry	4.0

**ARCHITECTURAL CADD (COMPUTER AIDED DESIGN AND DRAFTING) TECHNICIAN I CERTIFICATE**

Units Required : 9.0

*All of the following must be completed:*

CIDG 103	Blueprint Reading for Construction	3.0
CIDG 250	Architectural Computer Aided Design I	3.0
CIDG 108	Architectural Computer Aided Design II	3.0

**CADD (COMPUTER AIDED DESIGN AND DRAFTING) TECHNICIAN I CERTIFICATE**

Units Required: 9.0

*All of the following must be completed:*

CIDG 110	Two Dimensional AutoCAD	3.0
CIDG 210	Advanced Two Dimensional AutoCAD	3.0
CIDG 120	Solids Modeling and Three Dimensional CADD	3.0

**CIVIL CADD (COMPUTER AIDED DESIGN AND DRAFTING) TECHNICIAN I CERTIFICATE OF CAREER PREPARATION**

Units Required: 9.0

The Civil CADD Technician I certificate will prepare students for an entry level position in the Civil drafting field. Civil drafters prepare drawings and topographical and relief maps used in major construction or civil engineering projects, such as highways, bridges,

pipelines, flood-control projects, and water and sewage systems.

**Civil CADD Technician I**

CIDG 230	Civil Engineering using Land Desktop I	3.0
CIDG 231	Civil Engineering using Land Desktop II	3.0
CIDG 80	Geographical Information Systems for Emergency Management and Government Services I <b>or</b>	3.0
AGNR 171	Intro to Geographic Information Science	3.0

**DIGITAL ANIMATION TECHNICIAN I 3ds Max CERTIFICATE**

Units Required: 9.0

The 3ds Max certificate is designed to offer students a detailed look at one of the Animation industry's premier 3D packages. The courses taken to complete the certificate provide students an opportunity to learn a variety of topics, including how to model 3D objects, how to create realistic textures and materials, the art of camera and lighting techniques, and a variety of keyframing solutions to bring their ideas to life. In addition to completing both individual and group projects, students also delve into the traditional principles of animation that serve to heighten the level of realism and believability of an individual's work.

*All of the following must be completed with a grade of "C" or better.*

CIDG 160	3ds Max Fundamentals	3.0
CIDG 260	3ds Max Advanced Modeling and Materials	3.0
CIDG 261	3ds Max Character Animation and Advanced Keyframing Techniques	3.0

**DIGITAL ANIMATION ARTIST CERTIFICATE**

Units Required: 15.0

The Digital Animation Artist certificate is designed to expand an individual's expertise in 3D Animation by requiring additional training in traditional art principles and techniques. Employers many times view an animator who possesses the ability to both draw and more thoroughly understand concepts and practices specific to traditional art painting as more well-rounded and work-ready. By earning the Digital Animation Artist certificate, students will better position themselves for employment opportunities in this fast-paced and competitive field. An Adobe Photoshop course specific to 3D Animation applications is also required to earn a certificate.

*Complete the requirements listed in both Group I and Group II*

GROUP I - Animation Track

*Choose between software package options 1 or 2  
All of the following must be completed with a grade of "C" or better.*

*Option 1: 3ds Max*

CIDG 160	3ds Max Fundamentals	3.0
CIDG 260	3ds Max Advanced Modeling and Materials	3.0
CIDG 261	3ds Max Character Animation and Advanced Keyframing Techniques	3.0
MERT 56	Photoshop for Animators	3.0

*Option 2: SoftImage*

MERT 50	Principles of Animation	3.0
MERT 51	Intermediate Modeling and Animation with SoftImage	3.0
MERT 52	Digital Character Animation	3.0
MERT 56	Photoshop for Animators	3.0

GROUP II - Art Track

*Choose any ONE of the following courses.  
Must be completed with a grade of "C" or better.*

ART 101	Survey of Art History	3.0
ART 104	Film as an Art Form	3.0
ART 112	Design I	3.0
ART 113	Design II	3.0
ART 122	Introduction to Life Drawing	3.0
ART 124	Anatomy for Life Drawing	3.0
ART 125	Drawing I	3.0
ART 141	Sculpture I	3.0

**GEOGRAPHIC INFORMATION SYSTEMS FOR EMERGENCY RESPONSE AND MANAGEMENT CERTIFICATE OF CAREER PREPARTION**

Units Required: 13.0

Every emergency occurs within a geographic boundary. Using GIS helps support the decision making process that requires the geographic distribution of resources. This certificate is designed to prepare students for the field of GIS support for emergency management, including mitigation, preparation, response, and recovery.

**GIS FOR EMERGENCY MANAGEMENT & GOVERNMENT SERVICES**

CIDG 80	Geographical Information Systems for Emergency Management and Government Services I	3.0
CIDG 81	Geographical Information Systems for Emergency Management and Government Services II	3.0

AGNR 171	Intro to Geographic Information Science	3.0
FIRE 58	Intro to Emergency Management	4.0

**VISUAL COMMUNICATIONS CERTIFICATE GRAPHIC DESIGN**

Units Required: 17.0

*All of the following must be completed with a grade of "C" or better:*

CIDG 70	Design for Graphic Artists	3.0
CIDG 71	Survey of Computer Graphic Studio	4.0
CIDG 72	Computer Illustration	3.0
CIDG 73	Typography and Layout	3.0
CIDG 79	Multimedia and Web Design	4.0

**VISUAL COMMUNICATIONS CERTIFICATE PRINT PRODUCTION**

Units Required: 16.0

*All of the following must be completed with a grade of "C" or better:*

CIDG 70	Design for Graphic Artists	3.0
CIDG 71	Survey of Computer Graphic Studio	4.0
CIDG 73	Typography and Layout	3.0
CIDG 75	Page Layout and Design	3.0
CIDG 77	Print Production Processes	3.0

**Associate Degree**

To earn an Associate in Science degree with a major in CIDG, complete a minimum of 18 units from any of the certificate requirements above or from any CIDG courses, and meet all Victor Valley College graduation requirements. CIDG 138 may be used as Elective credit but may not be used to fulfill major requirements.

**Transfer**

Not a transfer major. Most CIDG courses transfer as Electives or fulfill subject credit requirements. Some CIDG courses fulfill lower division requirements for a related major. Students in this program sometimes choose to pursue a bachelor's degree in Architecture or Engineering. See Architecture and Engineering for transfer requirements for these majors.

**COMPUTER INTEGRATED DESIGN AND GRAPHICS COURSES**

**CIDG 50 DRAFTING LABORATORY**

Units: 1.0-4.0 - 48-54 hours of laboratory required for each unit. (No prerequisite. Grade Option) This course may be taken two times.

Drafting laboratory provides the additional time, equipment, and instruction necessary to develop

problem solving, board or AutoCAD skills at each individual's own pace.

**CIDG 65 3DS MAX ADVANCED EFFECTS AND COMPOSITING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: CIDG 260. Grade Option) This course may be taken four times.

Students will learn advanced concepts and procedures required for creating high quality 3D special effects. Topics will include particle systems, space warps, and reactor. Rendering techniques incorporating depth of field, motion blur, and anti-aliasing filters will also be discussed. Alpha channel compositing techniques will be addressed in detail. Students will also explore and analyze relevant issues pertaining to the computer animation industry.

**CIDG 70 DESIGN FOR GRAPHIC ARTISTS**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course covers the fundamental elements and principles of design. This course uses demonstration of the fundamentals and reinforces them through assignments and projects. Emphasis will be placed on developing techniques and vocabulary that will enable the student to problem solve and communicate ideas, concepts and solutions. Students will also learn how to properly critique design.

**CIDG 71 SURVEY OF COMPUTER GRAPHICS STUDIO**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course will introduce students to industry standard software packages used in visual communications. Students will be instructed on the basic use of draw, paint/photo, layout, multimedia, web and digital video applications. Topics covered include: Operating systems basics, drawing and painting on the computer, digitizing and editing sound and video and designing for interactivity.

**CIDG 72 COMPUTER ILLUSTRATION**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course covers the fundamental elements of illustration including history, design, color theory and appropriateness for specified use in the graphics industry. Students will create a series of illustrations using software techniques and skills developed through lectures, demonstration and assigned projects.



**CIDG 73 TYPOGRAPHY AND LAYOUT**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite)

In this course students will learn how to use type as a graphic design element using industry standard techniques and tools. Students will strengthen their use of type as a design element through a variety of projects ranging from elementary exercise to intermediate presentations. In addition, students will examine the history of type and typesetting, modern methodologies, principles and aesthetics of good typographic design.

**CIDG 75 PAGE LAYOUT AND DESIGN**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course introduces students to the computer as a page layout and design tool. Emphasis will be on using industry standard software to simplify the paste-up and pagination process when producing multi-page printed materials. Students will learn the terminology and techniques of page layout so that they may communicate within the industry. Class projects will develop the ability to work as a team to produce printed materials within time and technical constraints.

**CIDG 77 PRINT PRODUCTION PROCESSES**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite)

A study of the processes used in the printing industry. Emphasis will be placed on terminology, practices, and techniques for effective communication with printing professionals. Class projects will develop the students' ability to design within the necessary parameters.

**CIDG 79 MULTIMEDIA AND WEB DESIGN**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option)

This course teaches graphic artist the tools and procedures for designing graphics for the computer screen. This course will give an overview of standard industry software used for creating multimedia presentation and web pages. This course does not focus on HTML or scripting language but is focused on the development of the visual content.

**CIDG 80 GEOGRAPHICAL INFORMATION SYSTEMS FOR EMERGENCY MANAGEMENT AND GOVERNMENT SERVICES I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides an in depth introduction to: (a) why GIS matters and (b) the role of Geographic Information Systems (GIS) in the modern economy. This course

combines three learning methods aimed at helping students to master the use of the software: (a) Class lecture that reinforces the conceptual understanding of theory behind various tasks performed in ArcGIS. (b) Detailed step-by-step instructor lead exercise that exposes students to various workflows and specific ArcGIS Tools, (c) Exercise assignment designed for students to perform specific GIS tasks. Specific topics taught will include an understanding of GIS terminology, raster and vector data structures, data sources and accuracy, methods of data acquisition, conversion and input, requirements for metadata, working with spatial data databases (map features and attribute tables), and spatial analysis (map overlays, buffers, networks).

**CIDG 81 GEOGRAPHICAL INFORMATION SYSTEMS FOR EMERGENCY MANAGEMENT AND GOVERNMENT SERVICES II**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: CIDG 80)

This course introduces students to the current roles of GIS in support of emergency management activities at both local and federal levels. These roles are considered at each of the four stages of crisis management namely mitigation, preparation, response, and recovery. The course will introduce students to the some of the basic maps requested during emergency including Incident Action Plan maps (IAP), Briefing maps, damage prediction maps, basic census demographics, transportation maps, aerial operation maps, situational plan maps and progression maps. This course introduces students to the various GIS techniques deployed to help government and businesses to operate in the constantly changing environment. The course will consist of two parts: lecture/discussion and a lab. The lecture/discussion period will cover methodology, theory, concepts, and application of GIS in emergency management and governments (local and federal).

**CIDG 90 FUNDAMENTALS OF ARCHITECTURE AND STRUCTURAL ENGINEERING**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Recommended preparation: Students will need to have working knowledge of AutoCAD [preferably two semesters]. Grade Option). This course may be taken four times.

This course covers the fundamentals of architecture design and structural engineering with an emphasis on structural calculations. These fundamentals include the requirements for building plans and the most recent Title 24 Energy code and the names and explanations of construction hardware. Structural calculations are performed using the MaxQuake and the MaxBean software programs.

**CIDG 101 INTRODUCTION TO DRAFTING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

This survey course will explore the basic techniques used in the drafting industry. The course will emphasize proper use of instruments, lettering, and line quality. Course includes work in the fields of architectural, mechanical, and computer aided drafting.

**CIDG 103 BLUEPRINT READING FOR CONSTRUCTION**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite)

A course designed to develop skills necessary to interpret both residential and commercial construction drawings and blueprints.

**CIDG 104 BLUEPRINT READING FOR INDUSTRY**

Units: 3.0 - 48-54 hours lecture. CSU

A course designed to develop skills necessary to visualize and correctly interpret drawings and diagrams common to industry.

**CIDG 108 ARCHITECTURAL PRESENTATION**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option)

A study of two common architectural presentation techniques: model making and illustration. Students will develop skill in creating architectural models using paper, mat board, wood, plastic, and styrene foam. The illustration portion of this course will include work with perspectives in pencil, watercolor, and airbrush.

**CIDG 110 TWO DIMENSIONAL AUTOCAD**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite, Grade Option). This course may be taken four times.

An introduction to the AutoCAD program including all necessary basic commands required for computer aided drafting. Students will master drawing setup, common draw, edit and viewing commands and plotting. Lectures and exercises are designed to provide a comprehensive knowledge of all basic computer drafting functions.

**CIDG 120 SOLIDS MODELING AND THREE DIMENSIONAL CADD**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite). This course may be taken four times.

Solid Modeling and Three Dimensional CADD will introduce students to a new auto desk software package entitled INVENTOR. Students will understand the concepts involved in Parametric Modeling. Students will

begin by constructing basic shapes and proceed to building intelligent solid models and create multi-view drawings. Assembly drawings, section views, auxiliary views, sheet metal drawings, and details will also be produced. Students will develop their drafting and computer skills through drawings and projects that emphasize teamwork and the design process. Students will also learn various hardware, software and peripheral components related to operating a CADD station.

**CIDG 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**CIDG 160 3DS MAX FUNDAMENTALS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option). This course may be taken four times.

Students will learn the basics of 3D modeling, how to create and apply realistic textures, lighting principles and techniques, camera types and their appropriate usage, and fundamental keyframing procedures. Other topics to be covered include storyboards, the traditional principles of animation, current industry trends and issues pertaining to rendering output for different mediums (film, video, Internet, etc.).

**CIDG 210 ADVANCED TWO DIMENSIONAL AUTOCAD**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite). This course may be taken four times.

This course will explore the more advanced two-dimensional features of the AutoCAD program including entity filters, attributes, external reference files, paper space, and slide presentations. Projects include sectional description of compound shapes and developments.

**CIDG 230 CIVIL ENGINEERING USING LAND DESKTOP I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option). This course may be taken four times.

A working knowledge of AutoCAD is highly recommended. Introduction to Civil Engineering drafting and design techniques commonly used by government and private industry. Course includes a hands-on approach to using AutoDESK Land Desktop software application. Students will develop tract, parcel and utility maps, zoning overlays and site plans.

**CIDG 231 CIVIL ENGINEERING USING LAND DESKTOP II**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option). This course may be taken four times.

A working knowledge of AutoDESK Land Desktop is highly recommended. Advanced study of Civil Engineering drafting and design techniques commonly used by government and private industry. Course includes a hands on approach to using AutoDESK Land Desktop software application. Students will develop improvement plans, including grading plans, street plan and profiles and utility plans.

**CIDG 250 ARCHITECTURAL COMPUTER AIDED DESIGN I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CIDG 110. Grade Option). This course may be taken four times.

This course is designed to develop computer drafting skills necessary to produce residential working and presentation drawings. Design principles will be explored through the use of the Auto CAD/AutoDESK Architectural Desktop program.

**CIDG 251 ARCHITECTURAL COMPUTER AIDED DESIGN II**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CIDG 250). This course may be taken four times.

This course will cover more advanced computer skills necessary to produce commercial and institutional working and presentation drawings. Basic and advanced design principles will be explored and implemented through the use of the Auto CAD program.

**CIDG 260 3DS MAX ADVANCED MODELING AND MATERIALS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CIDG 160). This course may be taken two times.

Students will learn the more advanced modeling features of 3ds Max. Complex aspects of building materials and textures will be covered in depth. The course will culminate with students being introduced to the video game environment, having the opportunity create their own game level. The course will prepare students for work in the entertainment, commercial, and computer gaming industries.

**CIDG 261 3DS MAX CHARACTER ANIMATION AND ADVANCED KEYFRAMING TECHNIQUES**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIDG 260. Grade Option). This course may be taken four times.

Students will learn advanced animation techniques including editing keyframes through Track View, animating with controllers and constraints, wiring parameters, and using hierarchies. Character animation will be addressed in depth. Character Studio and Bones will be utilized to build skeletal systems for both characters and creatures. The course will prepare students for work in the entertainment, commercial, and computer gaming industries.

**CONSTRUCTION AND MANUFACTURING TECHNOLOGY**

The Construction Technology program provides preparation for a wide variety of positions in the construction field as a contractor, supervisor, building inspector or tradesperson. The program offers the opportunity to be self-employed and the pride and satisfaction of creating and building with your own hands.

Certificates of achievement can be earned in Construction Management, Building Construction, Building Inspection, Public Works, HVAC/R, Plumbing and Electrical & Residential Maintenance. The Associate in Science degree is awarded upon completion of 18 semester units in Construction Technology courses and the required general education and Elective courses. Transfer to the CSU system for a bachelor's degree in Industrial Technology is available.

**Career Opportunities**

Building Inspector  
Cabinetmaker  
Construction Accountant  
Construction Estimator  
Construction Insurance Agent  
Construction Law Specialist  
Construction Salesperson  
Construction Supervisor  
Contractor  
Cement Mason  
Civil Engineer  
Electrician  
Environmental Construction Specialist  
Financial Specialist  
Framer  
Grader  
Hazardous Materials Specialist  
Heating and Air Conditioning Engineer  
Job Foreman  
Materials Engineer  
Millwright  
Metal Building Specialist

Painter  
 Plumber  
 Plasterer  
 Project Supervisor  
 Public Works Technician  
 Purchasing Agent  
 Safety Specialist  
 Soils Engineer  
 Surveyor  
 Tinsmith  
 Waste Water Specialist  
 Water Distribution System Specialist  
 Workmans Comp Specialist

**Degrees and Certificates Awarded**

Associate in Science, Construction Technology,  
 Construction Management Certificate  
 Construction Technology Certificate  
 Basic Electrical Technician  
 Basic Heating, Ventilation and Air Conditioning/  
 Refrigeration Certificate  
 Basic Residential Maintenance Technician Certificate  
 Basic Woodworking Certificate  
 Building Construction Certificate  
 Building Inspector Certificate  
 Plumbing Technician  
 Public Works Certificate  
 Renewable Energy Certificate

**Certificate Programs**

**CONSTRUCTION TECHNOLOGY CERTIFICATE**

Units Required: 19.5

Provides the core knowledge and skills that are common and fundamental to success in a wide variety of construction trades.

*All of the following must be completed:*

CT 101	Careers in Construction and Manufacturing	1.5
CT 105	Technical Sketching	3.0
CT 106	Materials of Construction	3.0
CT 107	Technical Math	3.0
OR CT 108	Advanced Technical Math	3.0
CT 116	Construction Safety	2.0
CT 131	Microcomputers in Construction	4.0
CIDG 103	Blueprint Reading for Construction	3.0

**BUILDING CONSTRUCTION CERTIFICATE**

Units Required: 18.0

Provides the basic knowledge and skills necessary for job opportunities in a wide variety of specific construction trades including masonry, finish carpentry, framing, construction sales, drywall, painting, plumbing, electrical, roofing, heating, ventilation and air conditioning, and surveying.

*Students must complete their Construction Technology Certificate plus all of the following:*

*Group I - All of the following must be completed:*

CT 132	Construction Estimation	3.0
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*Group II - Two of the following must be completed:*

CT 120A	Electrical Wiring	4.0
CT 120B	Commercial Wiring	4.0
CT 121	Finish Carpentry	4.0
CT 122A	Heating and Air Conditioning	4.0
CT 122B	Commercial Refrigeration	4.0
CT 123	Surveying	4.0
CT 124	Plumbing	4.0
CT 125	Concrete and Masonry Construction	4.0
CT 127	Framing	4.0

*Group III - 7 units of the following must be completed:*

CT 138	Cooperative Education	1.0-6.0
CT 140	Construction Internship	4.0
CT 141	Construction Internship Laboratory	2.0-12.0
CT 148	Special Topics	1.0-6.0
CT 60A-D	Construction Laboratory	1.0-4.0

**BUILDING INSPECTION CERTIFICATE**

Units Required: 21.0

Provides a thorough background and skill level for employment in the building inspection field. This certificate prepares the student for employment in City and County Building and Safety departments as a private industry or corporate job site inspector.

*Students must complete their Construction Technology Certificate plus all of the following:*

*All of the following must be completed:*

CT 110	Building Codes and Zoning	3.0
CT 111A	Uniform Building Code 1	3.0
CT 111B	Uniform Building Code 2	3.0
CT 112	Uniform Mechanical Code	3.0
CT 113	Uniform Plumbing Code	3.0
CT 114	National Electrical Code	3.0
CT 115	Technical Office Procedures and Field Inspection	3.0

**CONSTRUCTION MANAGEMENT CERTIFICATE**

Units Required: 18.0-19.0

Provides the skills and background necessary for employment as a contractor, construction business manager, construction supervisor, or foreman when linked with appropriate, trade-specific knowledge.

Students must complete their Construction Technology Certificate plus all of the following:

All of the following must be completed:

CT 103	Construction Management	3.0
CT 104	Construction Law	3.0
CT 109	Construction Financing	3.0
CT 110	Building Codes and Zoning	3.0
CT 132	Construction Estimation	3.0
BADM 101	Elementary Accounting	4.0
OR BADM 103	Financial Accounting	3.0

**BASIC ELECTRICAL TECHNICIAN CERTIFICATE**

Units Required: 16.0  
This certificate provides the necessary knowledge and skill level required for employment in the electrical industry.

All of the following must be completed:

CT 107	Technical Math	3.0
OR CT 108	Advanced Technical Math	3.0
CT 114	National Electrical Code	3.0
CT 116	Construction Safety	2.0
CT 120A	Electrical Wiring	4.0
CT 120B	Commercial Wiring	4.0

**BASIC HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION (HVAC/R) SERVICE TECHNICIAN CERTIFICATE**

Units Required: 17.0

This certificate provides the basic knowledge and skills necessary for job opportunities in heating, ventilation and air conditioning.

All of the following must be completed:

CT 107	Technical Math	3.0
OR CT 108	Advanced Technical Math	3.0
CT 116	Construction Safety	2.0
CT 122A	Heating and Air Conditioning	4.0
CT 122B	Commercial Refrigeration	4.0
CT 136	HVAC Circuits and Controls	4.0

**PLUMBING TECHNICIAN CERTIFICATE**

Units Required: 15.0

This certificate provides the necessary knowledge and skill level required for employment in the plumbing industry.

All of the following must be completed:

CT 107	Technical Math	3.0
OR CT 108	Advanced Technical Math	3.0
CT 113	Plumbing Code	3.0
CT 116	Construction Safety	2.0

CT 124	Plumbing	4.0
CTMT 121	Plumbing Repair	3.0

**PUBLIC WORKS CERTIFICATE**

Units Required: 18.0  
This certificate provides the necessary skill level for employment on public works projects. Public works includes construction of streets and highways, water distribution systems, and waste water systems.  
Students must complete their Construction Technology Certificate plus the following:

Group I - All of the following must be completed:

CTPB 111	Introduction to Public Works	3.0
CTPB 112	Plan Reading for Public Works	3.0
CTPB 113	Public Works Inspection	3.0
CTPB 114	Public Works Administration	3.0

Group II - Two of the following must be completed:

CT 123	Surveying	4.0
CTPB 115	Street and Highway Construction	3.0
CTPB 116A	Water Distribution Systems	3.0
CTPB 117	Portland Cement Concrete	3.0
CTPB 118	Solid Waste Management	3.0
CTPB 119	Wastewater Management	3.0

**BASIC RESIDENTIAL MAINTENANCE TECHNICIAN CERTIFICATE**

Units Required: 15.0

This certificate provides the necessary knowledge and skill level required for employment in the residential maintenance and repair industry.

All of the following must be completed:

CT 107	Technical Math	3.0
OR CT 108	Advanced Technical Math	3.0
CT 116	Construction Safety	2.0
CTMT 120	Residential Maintenance and Repair	4.0
CTMT 121	Plumbing Repair	3.0
CTMT 122	Electrical Repair	3.0

**BASIC WOODWORKING CERTIFICATE**

Units Required: 17.0

This certificate demonstrates a basic understanding of wood, joinery and woodworking skills and the ability to safely and appropriately use common hand tools, power tools and equipment to perform common woodworking tasks. This certificate can lead to employment in a wide variety of woodworking trades.

All of the following must be completed:

CTMF 120A	Woodworking Tools and Equipment	2.0
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CTMF 121A	Woodworking	3.0
CTMF 121B	Advanced Woodworking	3.0
CTMF 122	Advanced Wood Topics	3.0
CTMF 129A	Woodturning	3.0
CTMF 129B	Advanced Woodturning	3.0

**RENEWABLE ENERGY CERTIFICATE**

Units Required: 17.0

This certificate demonstrates an understanding of renewable generation and the effects of fossil fuel use on our environment, economy and society. This certificate can lead to employment in the renewable energy field.

*Group I - All of the following must be completed:*

CT 105	Technical Sketching	3.0
CT 107	Technical Math	3.0
OR CT 108	Advanced Technical Math	3.0
CT 142	Renewable Energy	3.0
CT 143	Renewable Energy Laboratory	5.0
CTMT 122	Electrical Repair	3.0

**Associate Degree**

To earn an Associate in Science degree with a major in Construction Technology a minimum of 22.5 must be completed from the following list of departmental classes and the student must meet all Victor Valley College graduation requirements.

*Group I - All of the following must be completed:*

CT 101	Careers in Construction	1.5
CT 103	Construction Management	3.0
CT 104	Construction Law	3.0
CT 106	Materials of Construction	3.0
CT 110	Building Codes and Zoning	3.0
CT 116	Construction Safety	2.0
CT 131	Microcomputers in Construction	4.0

*Group II - One of the following must be completed:*

CT 105	Technical Sketching	3.0
CT 107	Technical Math	3.0
CT 108	Advanced Technical Math	3.0
CIDG 103	Blueprint Reading for Construction	3.0

**Transfer**

Some Construction Technology courses transfer to CSU as electives or may fulfill subject credit requirements. Some students in this program choose to pursue a bachelor's degree in Architecture or Engineering. See Architecture and Engineering for transfer requirements for these majors.

CSU Stanislaus, located in the Central Valley not far from the San Francisco Bay area, offers a B.S. degree in Applied Studies (telephone: 209 667-3597), to which up to 30 units of VVC's Construction and Manufacturing

Technology courses can be applied. Prerequisites: BADM 101, CIS 101, ECON 102, and MATH 120, plus complete the remaining CSU General Education-Breadth requirements (you can use ECON 102 and MATH 120 for both). Visit [www.assist.org](http://www.assist.org) for the most up-to-date information.

**CONSTRUCTION AND MANUFACTURING TECHNOLOGY COURSES**

**CT 2 ASSISTANT PROPERTY MANAGEMENT**

Units: 1.0 - 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

This class covers basic aspects of property management. Topics covered include code of ethics, inspections, filings, services posting of notices, collections, small claims court filings, evictions, securities and deposits, basic bookkeeping, and landlord tenant relations and rights. 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

**CT 60A/B/C/D CONSTRUCTION LABORATORY**

Units: 1.0-4.0 - 48-54 hours laboratory per unit, per term. (No prerequisite)

A laboratory class to provide additional skill development in the following areas: electrical wiring, finish carpentry, heating and air conditioning, framing, plumbing and concrete and masonry construction. Students will complete contract projects.

**CT 101 CAREERS IN CONSTRUCTION AND MANUFACTURING**

Units: 1.5 - 24-27 hours lecture. CSU (No prerequisite.)

This course is designed to provide the construction, manufacturing and drafting technology student with information and skills necessary to understand current job market needs and prepare a successful educational plan to obtain their desired goals. Students will develop an awareness of occupations and develop skills for seeking employment and completing job applications, resumes and interviews.

**CT 103 CONSTRUCTION MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Principles of management as they specifically relate to the construction industry. This course explores the relationship and importance of proper planning, estimating, contracting, financing and building. Also covered are leadership and supervisory skills, employer/employee relationships and safety.

**CT 104 CONSTRUCTION LAW**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Principles of contracting, real estate and construction law. Course includes legal aspects of building codes, contractors' licenses, workmen's compensation, social security, state safety regulations and lien laws as they apply to the construction trade.

**CT 105 TECHNICAL SKETCHING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade option)

A course designed to develop sketching skills and introduce sketching techniques currently used in the industrial and architectural fields. Includes principles of oblique, isometric and perspective sketching, including shading and shadows.

**CT 106 MATERIALS OF CONSTRUCTION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

A study of common materials used in residential and commercial construction. Course includes use and limitations of soil, paving materials, concrete, lumber, wall materials, roofing, insulation, siding, sheet material, electrical and plumbing materials and fixtures. This course will also explore the use of steel, aluminum and plastics in modern construction.

**CT 107 TECHNICAL MATHEMATICS**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite)

A review of basic arithmetic, fractions, decimals and percentages. Introduction to basic algebra and trigonometry as they apply to the manufacturing and construction trades.

**CT 108 ADVANCED TECHNICAL MATH**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course will include the practical applications of algebra, geometry and trigonometry. Class emphasis will be on the solution of technical problems commonly found in the fields of engineering, drafting, manufacturing and construction.

**CT 109 CONSTRUCTION FINANCING**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course introduces the basic issues and concepts of construction finance. Course examines the procedures for evaluation of all types of real estate credit and is designed to enable borrowers to utilize their resources to obtain financing.

**CT 110 BUILDING CODES AND ZONING**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Use of the Uniform Building Code and the various related state and local ordinances for plan checking and building compliance. Course includes a basic understanding of building codes and zoning as they apply to the construction and inspection of residential and light commercial buildings.

**CT 111A UNIFORM BUILDING CODE I**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite)

The first of a two part, in-depth study of the contents and applications of the Uniform Building Code and California amendments; emphasis on residential construction. This course includes building classifications by occupancy and type, engineering regulations and design requirements applicable to plan checking and structural building inspection.

**CT 111B UNIFORM BUILDING CODE II**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

An in-depth study of the Uniform Building Code and California amendments; emphasis on commercial applications. Course includes energy conservation standards, specialized commercial structures, public safety and standards for handicapped accessibility.

**CT 112 UNIFORM MECHANICAL CODE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This class is an in-depth study of the contents and applications of the Uniform Mechanical Code. Course covers the use of this code for plan checks and inspection of residential and commercial structures.

**CT 113 UNIFORM PLUMBING CODE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This class is an in-depth study of the contents and applications of the Uniform Plumbing Code. Course includes underground and above ground water, gas and air pipe installations for residential and commercial structures.

**CT 114 NATIONAL ELECTRICAL CODE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This class is an in-depth study of the contents and applications of the National Electrical Code. Course covers the use of the code for plan checks and inspection of residential and commercial structures. Plan reading, electrical theory, wiring methods and installation of electrical components and fixtures are also included.

**CT 115 TECHNICAL OFFICE PROCEDURES AND FIELD INSPECTION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite.)

Office organization, procedures and necessary paperwork pertinent to building and safety office management and inspection. Field inspection for completed building, zoning, health and safety ordinance applications. Course includes several field trips.

**CT 116 CONSTRUCTION SAFETY**

Units: 2.0 - 32-36 hours lecture. CSU. (No prerequisite)

An overview of industrial safety procedures as they relate to the construction job site. This course includes a study of common OSHA regulations and procedures.

**CT 119 LOAD CALCULATIONS AND CIRCUIT DESIGN**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

This course is designed to develop the skills necessary to visualize and correctly interpret drawings, diagrams, blueprints, and schematics common to the electrical industry. Course includes branch and feeder circuit design and load calculations as they apply to residential, multi-family, commercial and industrial applications.

**CT 120A ELECTRICAL WIRING**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. CSU. (No prerequisite)

Theory, procedure and techniques for electrical wiring of residential and light commercial construction. Topic areas include blueprint reading, power panels, wire sizing, conduit bending and installation, pulling and installation of wires, lighting and plug circuitry, designated circuits, underground and swimming pool wiring.

**CT 120B COMMERCIAL WIRING**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. CSU (Prerequisite: CT 120A)

Learn the techniques necessary for commercial wiring. Size conductors for motor, intermittent and continuous loads. Wire for single and three phase services. Course includes wiring techniques common to commercial applications, running circuits with flex, electrical metallic tubing, rigid and liquid tight conduits and use of common conductors, cables, boxes and raceways. Also included are transformers and motor load calculations, starters and over current protection devices.

**CT 121 FINISH CARPENTRY**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. CSU. (No prerequisite)

Course covers use of hand and machine woodworking tools and techniques common to finish carpentry and cabinet making. Students will develop skill in safe and efficient operation of common tools, layout, cutting, assembly and finish of woodworking projects.

**CT 122A HEATING AND AIR CONDITIONING**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. CSU. (No prerequisite)

This course provides instruction for layout, installation and repair of common residential and light commercial heating and air conditioning systems. Heating and air conditioning theory and energy calculations will be treated in depth. Course also includes use of solar energy for heating and cooling.

**CT 122B COMMERCIAL REFRIGERATION**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. CSU (Prerequisite: CT 122A)

Explore the more complex commercial and industrial uses of refrigeration, heating and air conditioning. Course covers installation and repair of the most common commercial refrigeration systems found in the food industry and industrial and manufacturing environments. Also included are computer controlled and central plant environmental systems, high and low pressure chillers, cooling towers and air handlers.

**CT 122C HEAT PUMP FUNDAMENTALS AND CONTROLS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

This course explores electrical and mechanical circuitry fundamentals, along with theory, operation and application of heat pump systems used in residential and light commercial heating installations including the heat pump refrigeration cycle, reversing valves, defrost methods of supplemental heat, balance point, air flow, and heat pump thermostats.

**CT 123 SURVEYING**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. CSU. (No prerequisite.)

A course designed to explore the principles and applications of surveying. Students will develop skill in the operation of surveying equipment used for measuring, leveling and locating of points. Course includes surveying techniques common to building and highway construction, general land surveying, hydrographic surveys and photogrammetric mapping.



**CT 124 PLUMBING**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. CSU. (No prerequisite)

This course provides instruction for layout and installation of residential and light commercial plumbing systems and fixtures. Rough and finish stages of plumbing will be introduced and students will become familiar with reading plans and calculating and constructing the plumbing system.

**CT 125 CONCRETE AND MASONRY CONSTRUCTION**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. CSU. No prerequisite)

Course covers use of hand and machine tools and techniques common to residential and light commercial concrete and masonry construction. Plan reading, layout, forming, pouring of concrete, tilt-up and various finishing techniques will be introduced. Course also includes construction with brick, stone, concrete block, and other masonry shapes.

**CT 126 EXPLORING BRICK AND BLOCK**

Units: 1.5 - 16-18 hours lecture and 24-27 hours laboratory. CSU (No prerequisite)

This course includes techniques used for construction of brick and block walls, decorative brick patios, planter edging and concrete slabs, curbs and walks. Class covers information on concrete and mortar mixes and proper forming, pouring and finishing of concrete slab and wall footings.

**CT 127 FRAMING**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. CSU. (No prerequisite)

Course covers use of hand and machine tools and techniques common to rough carpentry and residential and light commercial framing. Students will develop skill in safe and efficient operation of common tools, layout techniques, cutting and assembly of wall, ceiling and roof framing, and installing sheathing and insulation.

**CT 129 INDEPENDENT STUDY**

See Independent Study listing (1-4 units). CSU

**CT 130 RESIDENTIAL REMODELING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

Learn the skills and techniques necessary for remodeling of residential structures. Course includes project planning, estimation and layout. Gain experience in framing, plumbing, electrical drywall, floor and wall

finishing and concrete with projects that include patio and deck construction, room additions and kitchen and bathroom remodeling.

**CT 131 MICROCOMPUTERS IN CONSTRUCTION**

Units: 4.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

This course is designed to introduce the student to the potentials of the computer as it directly applies to the construction industry. Course includes instruction and practice in basic DOS, word processing, spread sheets, estimation programs and introductory computer-aided drafting.

**CT 132 CONSTRUCTION ESTIMATION**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite.)

Methods of estimation including material and quantity take-offs and analysis. Course also includes estimation of material, labor and overhead costs, subcontractors' bids and common bidding practice for all aspects of residential and light commercial construction.

**CT 133 PRECISION ESTIMATION**

Units: 3.0 - 32-36 hours lecture and 32-36 hours by arrangement. CSU (No prerequisite.)

Learn how to speed up your estimating process and increase your accuracy using today's leading construction estimating software. Timberline Precision Estimation Plus allows take-off using quick, single and assembly methods. Course includes development and maintenance of your database. Create your own crews, add-ons, formulas and assemblies to meet your particular estimating needs.

**CT 136 HVAC CIRCUITS AND CONTROLS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

This course explores electrical fundamentals common to the heating, ventilation, air conditioning and refrigeration fields. Course includes electrical theory, control circuitry and electronics, system supply circuitry and alternating and direct current troubleshooting.

**CT 137 SHEET METAL FABRICATION**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

This course will introduce the student to the fundamental elements, methods and principals of sheet metal design, fabrication and installation. Course includes air handling systems, gutters, flashings, coping, tanks and exhaust systems. Students will gain valuable hands-on skills in the proper use of metal working hand

and machine tools through the completion of multiple projects.

**CT 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**CT 140 CONSTRUCTION INTERNSHIP**

Units: 4.0 - 64-72 hours lecture. CSU. (No prerequisite. Grade Option)

Gain valuable hands-on construction skills by participating in the creation and operation of a small construction business. Students will research the market, design the project, estimate the costs, develop a business plan, secure a construction loan, prepare a schedule and analyze the projects progress and perform customer service and sales.

**CT 141 CONSTRUCTION INTERNSHIP LABORATORY**

Units: 2.0-12.0 - 6 hours weekly by arrangement per unit. CSU. (No prerequisite. Grade Option)

This course is the laboratory component for CT 140 Construction Internship. Students will research, develop, construct and market a construction project using computers and common construction tools and equipment.

**CT 142 RENEWABLE ENERGY**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Grade Option)

This course explores methods of generation and use of renewable energy. Topics include renewable fuel based generators, fuel cells, wave and tidal generation, geothermal, wind turbines, photovoltaic, barometric pressure, and hydroelectric generation. Course also covers active and passive solar heating and cooling, alternate fuel vehicles and electric transportation.

**CT 143A/B/C/D RENEWABLE ENERGY LABORATOR**

Units: 2.0-5.0 - 16-18 hours lecture and 48-54 hours laboratory per unit, per term. CSU. (No prerequisite. Co-requisite: CT 142, Renewable Energy. Grade Option)

This laboratory course explores methods of generation and use of renewable energy through actual projects. Additional projects include the creation of an active and passive solar heating and cooling system and exploration of alternate fueled and electric vehicles.

**CT 148 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU

**CONSTRUCTION TECHNOLOGY  
MANUFACTURING COURSES**

**CTMF 120A WOODWORKING TOOLS AND EQUIPMENT**

Units: 2.0 - 32-36 hours lecture. CSU (No prerequisite)

This course is designed to give the woodworking student an in-depth knowledge of common woodworking tools and equipment. Students will explore the safety, use and maintenance of saws, lathes, routers, planers, jointers, sanders and common power and hand tools used for basic woodworking projects.

**CTMF 120B ADVANCED WOODWORKING TOOLS AND EQUIPMENT**

Units: 2.0 -32-36 hours lecture. CSU (Prerequisite: CTMF 120A.)

This course is designed to give the woodworking student an in-depth knowledge of the more advanced woodworking tools, equipment and operations. Students will explore the safety, setup, use and maintenance of saws, lathes, routers, planers, jointers, sanders and common power and hand tools as used in advanced woodworking projects. Course also includes extensive coverage of tool sharpening.

**CTMF 121A WOODWORKING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Co-requisite CTMF 120A. Grade option)

This is a beginning woodworking class. Topics covered include safety, tools, the composition of wood and its characteristics, beginning design and sketching, project planning, measuring and cutting, use of large and small power tools, and general woodworking techniques. Students will be expected to complete multiple projects as part of their grade.

**CTMF 121B ADVANCED WOODWORKING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CTMF 121A)

This is an advanced course in fine woodworking using techniques common to custom wood products, furniture making and wood art. Learn the artisan's techniques for wood joining, carving, turning and finishing by completing various wood projects. Course includes a study of common woods, tools and methods for shaping and finishing.

**CTMF 122A/B/C/D ADVANCED WOOD TOPICS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CTMF 121A Basic Woodworking. Grade option.)

Come develop your skills and learn the methods and procedures necessary for completing an advanced woodworking project. One specific advanced woodworking project is selected as the focus for each semester. Check with the Construction Technology Department for the current project. Course may also include specialized techniques of turning, marquetry, parquetry, carving and intarsia.

#### **CTMF 127 PRODUCTION WOODWORKING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CTMF 126A)

This course covers techniques common to production woodworking and includes design and construction of custom jigs, fixtures and templates for drill presses, routers, saws and lathes. Students will gain experience with computer numerical controlled routers, surfacing sanders, airbag sanders and production fastening techniques and wood finishes while creating several commercial woodworking projects.

#### **CTMF 129A WOODTURNING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Co-requisite CTMF 120A.)

This introductory course will provide the woodworking student with information and skills necessary to successfully design, turn and finish typical woodturning projects. Course includes lathe, spindle, faceplate and drive chuck turning. Students will complete a variety of projects that can include pens and pencils, games and toy pieces, decorations, lamps, spindles, bowls and boxes.

#### **CTMF 129B ADVANCED WOODTURNING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CTMF 129A, Woodturning. Grade option.)

This advanced woodturning course includes green, seasoned and laminated wood and acrylic projects. Students will explore turning of large bowls and platters, maintaining natural edges, turning burls, proper box and lid construction, off center turning, chatter finishes and construction of turning fixtures, centers and drives.

#### **CTMF 130A MECHANICAL DESKTOP**

Units: 3.0 - 32-36 hours lecture and 32-36 hours by arrangement. CSU (Prerequisite: CIDG 110.)

Develop your skill in creating accurate three-dimensional parametric models using Mechanical Desktop. Explore the exciting features of this program which includes parametric modeling, surfacing, model analysis, interference checking and assemblies. Learn how to export surface and design information to

computer controlled mills and routers. This is an introductory class in Mechanical Desktop.

#### **CTMF 130B MECHANICAL DESKTOP ADVANCED**

Units: 3.0 - 32-36 hours lecture and 32-36 hours by arrangement. CSU (Prerequisite: CTMF 130A)

This advanced course in Mechanical Desktop includes a focused exploration of detailed models and complex assembly models. Students will explore the full features of the Mechanical Desktop package including fasteners, shaft and gear generation and creation of motion based, skin and derived surfaces. Both localized and externalized assemblies will be created and analyzed for interference and engineering characteristics.

#### **CTMF 131A MASTERCAM**

Units: 3.0 - 32-36 hours lecture and 32-36 hours by arrangement. CSU (No prerequisite.)

Learn the techniques of numerical controlled programming using Mastercam software. Generate three-dimensional models and learn how to create parts, molds, and fixtures using integrated solids, surfaces and wireframes. Unite the software with the machine and create milled or routed three-dimensional parts.

#### **CTMF 131B MASTERCAM ADVANCED**

Units: 3.0 - 48-54 hours lecture and 32-36 hours by arrangement. CSU (Prerequisite: CTMF 131A.)

This advanced course includes an in-depth study of the more complex features of Mastercam. Students will create geometry and toolpaths for complex three-dimensional and surface models for mills, routers, lathes and engraving machines. Programming of multi-axis and mill-turn machines will be explored.

#### **CTMF 140 MANUFACTURING INTERNSHIP**

Units: 4.0 - 64-72 hours lecture. CSU (No prerequisite. Grade Option.)

This course will provide the construction, drafting and manufacturing technology student with hands-on job skills and experience common to the manufacturing industry.

#### **CTMF 141 MANUFACTURING INTERNSHIP LABORATORY**

Units: 2.0-12.0 - 6 weekly hours by arrangement per unit. CSU (No prerequisite. Grade Option.)

This course is the laboratory component for CTMF 140 Manufacturing Internship. Students will research, design, manufacture and market a project using computers and common manufacturing equipment. CTMF 140 must be taken concurrently.

**CONSTRUCTION TECHNOLOGY  
MAINTENANCE COURSES**

**CTMT 120 RESIDENTIAL MAINTENANCE AND REPAIR**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option)

This class covers all major aspects of preventative maintenance and repair for residential and light commercial buildings. Topics covered include but are not limited to repairing roofing, plumbing, electrical framing, insulation, drywall, painting, concrete, flooring, safety, tools, heating and cooling, etc. as they apply to the maintenance and repair industry.

**CTMT 121 PLUMBING REPAIR**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option)

This class covers most aspects of residential and light commercial plumbing repair. Topics covered include but are not limited to plumbing tools, water supply systems, drainage systems, drainage problems, faucets and valves, piping, soldering and threading, water heating systems, plumbing fixtures, pricing, billing, and inventory management, as they apply to the plumbing repair business.

**CTMT 122 ELECTRICAL REPAIR**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option)

This class covers most aspects of residential and light commercial electrical repair. Topics covered included but are not limited to electrical tools, electrical theory, wiring systems electrical materials, electrical services, troubleshooting electric circuits, low voltage circuits, appliances and motors, and mathematics for electricians.

**CTMT 123 CUSTODIAL MAINTENANCE**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option)

This course covers the major aspects of custodial and janitorial work. Course includes general cleaning techniques, cleaning equipment use and maintenance, cleaning chemicals, window care, maintaining hard floors, carpet and upholstery care, chemical hazards, Cal OSHA regulations, and handling of infectious waste as they apply to the janitorial industry.

**CTMT 129 SMALL ENGINES AND LIGHT VEHICLES**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option)

This class covers the fundamentals of small internal combustion engines, and their uses in light vehicles. Topics covered will include but are not limited to theory of small internal combustion engines, service, troubleshooting, repair, small engine applications, and light vehicle design.

**CONSTRUCTION TECHNOLOGY PUBLIC  
WORKS COURSES**

**CTPW 111 INTRODUCTION TO PUBLIC WORKS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Introduction to techniques, materials and equipment used in Public Works maintenance and construction. Meets the standards of the American Public Works Association, Street Superintendents' Association and Inspectors' Association.

**CTPW 112 PLAN READING FOR PUBLIC WORKS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Reading and interpreting plans related to public works, water, storm drain, and sewage facility projects. Basic survey methods, symbols, mathematical conversions, and determination of slope and grade.

**CTPW 113 PUBLIC WORKS INSPECTION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

General public works inspection techniques. Includes Portland Cement and asphalt concretes, soils, base and subgrade, safety, contracts, and specifications. Responsibilities of the contractor, engineer, agency, and inspector.

**CTPW 114 PUBLIC WORKS ADMINISTRATION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite.)

An introduction to the organizational concepts used by the Public Works department. Includes typical organization, management concepts, political considerations, planning, budget management and public relations.

**CTPW 115 STREET AND HIGHWAY  
CONSTRUCTION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Equipment, materials, and methods employed in the construction, inspection, and maintenance of streets and highways. Includes Portland Cement concrete; surface drainage; traffic signs; safety and safe practices, highway design; laws, codes and ordinances; management principles; budget preparations; equipment maintenance records; underground utilities; surveying and staking.

**CTPW 116A WATER DISTRIBUTION SYSTEMS I**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Water distribution systems operation. Fundamentals of water production, quality, and system operation. Includes piping, services, pumps, reservoirs, mathematics, and basic hydraulics. Preparation for Grades I and II Water Distribution Operator Certification.

**CTPW 117 PORTLAND CEMENT CONCRETE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Portland Cement concrete design and uses. Covers transporting, placing, curing, and testing Portland Cement concrete. Applications and construction methods employed.

**CTPW 118 SOLID WASTE MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Methods used in collection of solid waste materials. Includes equipment, scheduling, and customer relations. Ultimate disposal of solid waste matter as well as projections concerning future collection and disposal operations. Special emphasis on municipal resource recovery, salvaging, and recycling.

**CTPW 119 WASTEWATER MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Comprehensive examination of wastewater management, impact of waste contributions from home and industry, effects of wastewater treatment, water reclamation and by-product disposal.



## COOPERATIVE WORK EXPERIENCE EDUCATION

Cooperative Education is a key element of Victor Valley College's comprehensive approach to career development. Co-op is a 16-, 12-, or 8-week course that enables the student to receive college credit for on-the-job training that will make him/her a more efficient and valuable employee while providing a practical education that supplements and enhances classroom theory. It relates education to real work environments through learning while earning. It also provides the opportunity for work improvement by improving skills. Victor Valley College recognizes job experience as a valuable learning resource. It has the uniqueness of turning community business, industry, and public agencies into an expanded educational training laboratory. Co-op also allows credit for volunteer training. Credit is awarded on the basis of objectives completed and the number of hours the student trains. Students may utilize their present worksites. More details are available in the Co-op Office, (760) 245-4271, ext. 2281. The office, located in the Academic Commons, is open Monday-Friday, 8:30 a.m.-12:30 p.m., 1:30-5:00 p.m., and by appointment.

Co-op is a course designed for students who are cross-training at their current worksite for upward mobility or possible career changes as well as those looking for entry-level occupational training through work-based learning experiences.

Are you looking for occupational skills training for employment? We can offer you:

- Practical experience
- An opportunity to apply classroom learning on the job
- College credit
- Career guidance in a realistic setting
- A chance to learn what you do well and what you enjoy doing
- A reason for staying in college
- Job contacts
- Up-to-date laboratory experience
- Orientation to changing job conditions
- New ways of getting ahead
- Opportunity to experience socialization in the work place
- Transferable college units

Credit is awarded on the basis of objectives completed and the number of hours worked. You will need a minimum of 75 hours of paid work for each unit of credit, or 60 hours of volunteer work for each unit of credit.

**Paid**

**75 Hours per unit/per semester    Total Semester Hours**

05 hrs/wk	1.0 unit	75
10 hrs/wk	2.0 units	150
15 hrs/wk	3.0 units	225
20 hrs/wk	4.0 units	300
25 hrs/wk	5.0 units	375
30 hrs/wk	6.0 units	450
35 hrs/wk	7.0 units	525
40 hrs/wk	8.0 units	600

**Volunteer**

**60 Hours per unit/per semester    Total Semester Hours**

04 hrs/wk	1.0 unit	60
08 hrs/wk	2.0 units	120
12 hrs/wk	3.0 units	180
16 hrs/wk	4.0 units	240
20 hrs/wk	5.0 units	300
24 hrs/wk	6.0 units	360
27 hrs/wk	7.0 units	420
32 hrs/wk	8.0 units	480

**Eligibility**

Students must utilize their present work site, as we do not place students at work sites. Students do not need a declared major and do not need to be working in a major to enroll in Co-op General Work Experience.

To be eligible for Cooperative Education, students must:

- Be enrolled as a Victor Valley Community College student.
- Spend at least five (5) hours a week at a work site.
- Pursue a planned program of Cooperative Education that includes new or expanded responsibilities or learning opportunities beyond those of previous employment and training.

**Credit**

Students may earn between 1 and 8 units of Co-op credit per semester, depending on the number of hours completed. A maximum of 16 units of Co-op credit may be used towards electives for the AA/AS degree; these units also transfer to CSU.

**Cooperative Education Work Experience is offered in the following areas:**

- Administration of Justice
- Agriculture and Natural Resources
- Allied Health
- Art
- Automotive
- Biology
- Business Administration
- Business Education Technologies
- Business Escrow
- Business Real Estate
- Chemistry
- Child Development

- Computer Information Systems
- Computer Integrated Design & Graphics (Drafting)
- Construction & Manufacturing Technology
- Education
- Electronics and Computer Technology
- English
- Fire Technology
- General Work Experience
- Journalism
- Mathematics
- Music
- Nursing
- Photography
- Physical Science
- Physics
- Political Science
- Psychology
- Respiratory Therapy
- Restaurant Management
- Sociology
- Theater Arts
- Welding

For further information and individual guidance, contact the Cooperative Education Office at 245-4271, ext. 2281, or visit [www.vvc.edu/offices/coopedu](http://www.vvc.edu/offices/coopedu).

**Faculty**

**Full Time**

Maggi Dunsmore



## DEVELOPMENTAL STUDIES

Developmental Studies courses offer language analysis curriculum specifically designed for students with language based disabilities. The curriculum is a multisensory, sequential, and cognitive approach which includes both perceptual and neurological deficit therapy.

### DEVELOPMENTAL STUDIES COURSES

#### DVST 1 LANGUAGE ANALYSIS DEVELOPMENT 1

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course is designed for students who would like to learn how to read and spell phonetically. The sounds and rules governing the sounds are introduced to the students. The students are then given opportunity to encode and decode words using this phonetic instruction. This course will not apply to the Associate Degree.

#### DVST 2 LANGUAGE ANALYSIS DEVELOPMENT 2

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Pass/No Pass)

Language Analysis 2 uses a multisensory sequential approach to teaching the encoding and decoding of multisyllabic words according to the phonetic structure of the words. Students will also learn how to apply the rules governing the phonetic structure in order to enhance both reading and spelling. This course will not apply to the Associate Degree.

#### DVST 3 LANGUAGE ANALYSIS DEVELOPMENT 3

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Pass/No Pass)

Language Analysis 3 is a multisensory and structured approach to understanding the skills and techniques that can enhance comprehension of college level text book reading assignments. Specifically, the key words and organizational patterns of the text will be identified and methods for grasping the main idea of the text will be presented. This course will not apply to the Associate Degree.

#### DVST 4 MATHEMATICAL REASONING

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Pass/No Pass)

Math Reasoning addresses the perceptual and language deficits that can interfere with understanding mathematical concepts and operations. Students will be given hands-on experience to increase visual perception and to comprehend the language used in mathematics. This course will not apply to the Associate Degree.

## DIGITAL ANIMATION

See Computer Integrated Design and Graphics  
See Media Arts

## ECONOMICS

Economists study how society can best use resources such as land, raw materials, capital, and labor. They analyze the relationship between the supply of goods and services and the demand as well as how these goods and services are produced, distributed, and consumed. Some economists work on public issues such as the control of inflation, business cycles, unemployment, wage, tax, and tariff policies. Others collect, analyze, and interpret data on a wide variety of economic problems, develop theories to explain causes of these problems, and identify possible solutions.

Economics provides both a general academic experience and professional preparation. The program emphasizes economic analysis, institutions, and policy in America, regional, and urban settings. Economics is designed to facilitate the students' matriculation to the four-year college or to provide an understanding of the economic world in which we live. Key concepts and methodology for analysis are emphasized.

### Career Opportunities

Budget Analyst  
Business Analyst  
Business Forecaster  
Commodity Economist  
Commodity Price Forecaster  
Economic Analyst  
Economic Forecaster  
Economist  
Industrial Relations Specialist  
Investment Analyst

### Faculty

Peter Allan  
Henry Young

### Degrees and Certificates Awarded

Associate in Arts, Liberal Arts

Certificate Program No certificates awarded.

### Associate Degree

No Associate degree is offered with a major in Economics. Economics courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major.

### Transfer

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop

by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Economics major*
- **University of California, Riverside**  
*Economics major*

### ECONOMICS COURSES

**ECON 101 PRINCIPLES OF ECONOMICS: MACRO**  
Units: 3.0 - 48-54 hours lecture. (Prerequisite: Math 90 or higher with a grade "C" or better).

Introduction to economic theory and analysis with emphasis on fiscal and monetary policy, capitalism, national income, employment, money, economic stability, economic growth and achievements emphasizing the macro-economic approach. The purpose is to provide students with an introduction into major issues facing the world economies, exposing students to the methods that economists use to study and solve those issues and economic policy problems of the 21st century.

**ECON 102 PRINCIPLES OF ECONOMICS: MICRO**  
Units: 3.0 - 48-54 hours lecture. CSU, UC.  
(Prerequisite: Math 90 or higher with a grade "C" or better.)

Introduction to economic theory and analysis with emphasis on basic concepts, the economics of business organizations and resource allocation, domestic, international, and world economics. Emphasizes the micro-economic approach.

**ECON 128 SPECIAL TOPICS**  
See Special Topics listing (Variable units). CSU

**ECON 129 INDEPENDENT STUDY**  
See Independent Study listing (1-3 units). CSU



### EDUCATION

The Department of Education and Educational Technology at Victor Valley College offers certificate programs for transfer into teaching credential programs offered at accredited four-year colleges. These preparatory courses may transfer to Education and Educational Technology majors when and where articulation agreements exist. Education is the career field for those individuals who desire to teach in elementary and secondary schools, as well as in colleges and professional education. This field of study prepares students to participate as teachers and learning facilitators. Graduates in this field—bachelor's degree and postgraduate study required—qualify for a variety of positions including teaching at the elementary, secondary, and college levels. Education remains on the national list of growing occupations.

To obtain a California teaching credential, students must follow a five-year program by first pursuing a four-year bachelor's degree and then completing a fifth year teaching credential program in which they complete mostly education courses, including student teaching.

#### Credentials

California Commission on Teacher Credentialing is responsible for setting standards for licensure of teachers and for accreditation of institutions that prepare teachers. The Commission is working toward meeting the standards set by the Senate Bill 2042. Some institutions may still be in the process of making changes to comply with the Commission's new standards. If you are thinking of a career in teaching, you should see a counselor for the latest information.

Also, spend some time at <http://www.ctc.ca.gov/credentials/teach.html> and <http://www.teachcalifornia.org/> for important, up-to-the-minute information about the teaching profession in California.

A minimum 2.6-3.0 GPA is required for acceptance into most credential programs. Minimum GPA accepted varies according to the major and the university the student chooses.

#### CBEST

Students will usually student teach during the last two quarters of their credential program. Before student teaching, all students must take the California Basic Educational Skills Test (CBEST). Most students take the CBEST during their junior year, a quarter or two after transfer to a university.

#### CSET

All Multiple Subject (K-6) candidates are required to pass the California Subject Examinations for Teachers (CSET); there are no longer waiver programs for this requirement.



**Career Opportunities**

- Administrative Services
- Elementary Teacher
- ESL Teacher
- High School Teacher
- College Instructor
- Education Consultant
- Training Facilitator
- Instructional Designer
- Distance Learning Specialist
- MGM Teacher
- Physically Handicapped Teacher
- Pupil Personnel Services
- Reading Teacher
- Special Education Teacher
- Vocational Teacher

**Faculty**

Mike Smith

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts  
 Degree will vary with major.  
 Educational Technology Certificate  
 Collegial Education Certificate Level I, II

**Certificate Programs**

**EDUCATIONAL TECHNOLOGY CERTIFICATE**

Units Required: 17.0

The Educational Technology Certificate Program significantly enhances transfer readiness for students who intend to pursue a career in public education (K-12 teacher, community college teacher, school administration, academic counseling, special education, etc.) or a career in professional education (instructional designer, business/corporate trainer, educational software engineer, educational consultant.) Additionally, the program (1) certifies teachers of all types in the use and integration of computer technology in their practice, and (2) certifies students for work as paraprofessionals or para-educators in technology-enhanced school settings, such as computer labs and networked classrooms. The Educational Technology Certificate Program exceeds the rigorous standards set by version two of the California Technology Assessment Profile.

*All of the following must be completed:*

EDUC 101	Introduction to Teaching	3.0
ETEC 106	Introduction to Computer Tech for Educators	4.0
ETEC 107	Introduction to the Internet for Educators	2.0
ETEC 51	Introduction to Educational Technology	3.0
ETEC 70	Leadership in Educational Technology	3.0
ETEC 90	Educational Technology Internship	2.0

**COLLEGIAL EDUCATION CERTIFICATE**

This certificate will serve the needs of parents who home school their children or are actively involved in the education of their children at school. It is intended to assist parents developing their understanding of how children think and learn, and how different educational styles and approaches influences learning. The certificate will initially be offered to parents of students at the Lewis Center in Apple Valley and has been developed in collaboration with the administration of the Lewis Center.

**COLLEGIAL EDUCATION - LEVEL I**

Units Required: 6.0

*All of the following must be completed with a grade of "C" or better:*

EDUC 101	Introduction to Teaching	3.0
CHDV 100	Child Growth and Development	3.0

**COLLEGIAL EDUCATION CERTIFICATE - LEVEL II CURRICULUM SPECIALIZATION**

Units Required : 6.0

*Complete the Collegial Education Certificate - Level I first.*

*Choose 6 units from any of the following:*

CHDV 134	Language Experiences for Young Children	3.0
CHDV 144	Math and Science for Young Children	2.0
ENGL 235	Children's Literature	3.0
MATH 70	Building Mathematical Experiences for Children K-8	3.0
MATH 71	Guided Discoveries Practicum	2.0

**COLLEGIAL EDUCATION CERTIFICATE - LEVEL II TEACHING AND LEARNING SPECIALIZATION**

Units Required: 6.0

*Complete the Collegial Education Certificate - Level I first.*

*Choose 6 units from any of the following:*

CHDV 132	Montessori Methods	3.0
GUID 107	Learning Strategies and Study Skills	3.0
PSYC 105/ GUID 105	Personal and Career Success	3.0

**COLLEGIAL EDUCATION - LEVEL II: TECHNOLOGY SPECIALIZATION**

Unit Required: 6.0

*Complete the Collegial Education Certificate - Level I first.*

*Choose 6 units from any of the following:*

ETEC 106	Introduction to Computing for Educators	4.0
ETEC 107	Introduction to the Internet for Educators	2.0
ETEC 51	Introduction to Educational Technology	3.0
MATH 70	Building Mathematical Experiences for Children K-8	3.0
BET 131A	Presentation Software: PowerPoint I	1.0
BET 131B	Presentation Software: PowerPoint II	1.0
BET 131C	Presentation Software: PowerPoint III	1.0
BET 135	Desktop Publishing: PageMaker	2.0

**Associate Degree**

No associate degree offered with a major in Education. Courses in the Liberal Studies major may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major.

**Transfer**

To pursue a bachelor's degree that prepares students for teaching, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

**MULTIPLE-SUBJECT (K-6) TEACHING CREDENTIAL**

- **California State University, San Bernardino**  
*CSUSB offers multiple-subject programs in the Liberal Studies and Human Development/Child Development (Track II) majors*
- **University of California, Riverside**  
*UCR offers multiple-subject programs in the following majors: English, Ethnic Studies, History, Human Development, Liberal Studies, Political Science, Sociology*

**Local Bachelors Programs offering preparation for Multiple Subjects credentials**

*For information on the following programs located in the High Desert, please visit: [www.vvc.edu/offices/guidance\\_and\\_counseling/](http://www.vvc.edu/offices/guidance_and_counseling/) and select "Counseling Information Sheets"*

- **Azusa Pacific University, High Desert Regional Center**  
*Human Development major*
- **Brandman University, Victor Valley Campus**  
*Social Sciences major*
- **University of La Verne, High Desert Campus**  
*Liberal Studies major*

**SINGLE SUBJECT TEACHING CREDENTIAL**

Students pursuing a Single Subject Teaching Credential to teach a specific subject in Grades 7-12 should follow the bachelor's degree major requirements for that specific subject waiver program and complete the appropriate general education requirements. For example, a student who plans to teach English in high school should complete the transfer requirements for an English major or an English waiver and all general education transfer requirements for the specific university.

- **California State University, San Bernardino**  
*Art, English, English with a concentration in Communication Studies, English with a concentration in Theatre Arts, French, Health Sciences, History, Mathematics, Music, Physical Education, Political Science, Social Sciences, Spanish, any of the sciences*
- **University of California, Riverside**  
*Biological Sciences, English, History, Mathematics, Political Science, Physical Sciences (Physics), Social Sciences*

**VOCATIONAL SUBJECTS**

The following California State University (CSU) campuses offer Bachelor's Degrees in Vocational Ed./Occupational Studies. Contact them for admissions requirements:

Long Beach	San Diego
Los Angeles	San Francisco
San Bernardino	San Luis Obispo

**EDUCATION COURSES****EDUC 101 INTRODUCTION TO TEACHING**

Units: 3.0 - 48-54 hours lecture. CSU. UC. (No prerequisite)

An introduction to teaching as a career and to education as a social institution. The crucial issues facing education in contemporary American society are considered in the framework of the democratic way of life. Special attention is given to issues in educational technology, as well as to the goals, curriculum, and methods of elementary education. The opportunities, challenges, and requirements of teaching as a profession are presented. This course is not designed to be a course in professional education.

**EDUC 138 COOPERATIVE EDUCATION**

See Cooperative Education (1 - 8 units). CSU

**EDUCATIONAL TECHNOLOGY COURSES****ETEC 51 INTRODUCTION TO EDUCATIONAL TECHNOLOGY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course examines technology from three integrated perspectives: technology as a tool, a medium, and a setting for learning. Students will extensively use Internet tools as they survey a variety of strategies for integrating technology into the classroom. The course will also instruct students on the basic methods and strategies for creating Web-based learning activities. Students will have the opportunity to create projects relevant to their educational setting.

**ETEC 70 LEADERSHIP IN EDUCATIONAL TECHNOLOGY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course defines and details constructivist leadership, framing that leadership in terms of educational technology. Students will apply these concepts to their own settings through introductory understandings of knowledge management and virtual learning. Students will have the opportunity to formulate technology rollout and training plans specific to their educational organizations or fields.

**ETEC 90 EDUCATIONAL TECHNOLOGY INTERNSHIP**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite, Pass/No Pass)

This course provides students with valuable experience in educational settings by partnering them with teachers or other professional educators to assess needs, collaborate on possible solutions, support implementations, and evaluate outcomes. Students will also benefit from working within a community of practice during their internships.

**ETEC 106 INTRODUCTION TO COMPUTER TECHNOLOGY FOR EDUCATORS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

A survey course which provides an overview of computer technology for multi-disciplinary majors, but with emphasis on its role in educational settings. The course provides instruction in a variety of topics supported by hands-on laboratory work with operating systems, word processing, spreadsheets, databases, desktop publishing, programming, networks, and the Internet. Application and evaluation of computer

technology in learning environments serves as the overall framework. See cross listing for CIS 106.

**ETEC 107 INTRODUCTION TO THE INTERNET FOR EDUCATORS**

Units: 2.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

A course for education students or current teachers to acquire the skills needed to effectively utilize the Internet in the classroom. Emphasis will be placed on computer-mediated communication with the World Wide Web. Students will become well versed in the use of Web browsers, FTP, newsgroups/asynchronous discussion, e-mail, and chat synchronous discussion. See cross listing for CIS 107.



**ELECTRONICS AND  
COMPUTER TECHNOLOGY**

The Electronics and Computer Technology Department offers several concentrations in electronics and computer technology that are designed to prepare students for a variety of high-tech job/career opportunities in the fields of engineering and technology; electronics technology; computer technology; telecommunication technology; and related technologies.

The Electronics and Computer Technology Department offers an associate degree program in engineering technology with an emphasis in electronics, computers, and telecommunications. Technology certificates offered in areas of specialization include: electronics technology, computer technology, telecommunication technology, networking technology, electronic communication technology, and industrial electronics technology. Certificates/certifications offered in specific areas of electronics, computers, and related technology include: Certified Electronics Technician (Associate CET), A+ Certified Computer Service Technician, N+ Certified Networking Technician, CISCO Certified Network Associate (CCNA), CISCO Certified Network Professional (CCNP), Microsoft Certified Systems Engineer (MCSE), Certified Fiber Optics Installer, (FOIC), Electronics Communications (WCM, FCC license) and Digital and Microprocessor Electronics.

**Career Opportunities**

- Electronics Engineering Technologist
- Computer Engineering Technologist
- Network Engineering Technologist
- Telecommunications Engineering Technologist
- Certified Electronics Technician, CET
- A+ Certified Computer Technician
- N+ Certified Network Technician
- Certified Telecommunication Technician
- CISCO Certified Network Associate (CCNA)
- CISCO Certified Network Professional (CCNP)
- Microsoft Certified Professional (MCP)
- Microsoft Certified Systems Engineer (MCSE)
- Networking Cable Installer
- Fiber Optics Installer
- Microwave/Radar Technician
- Laser/Optical Technician
- Industrial Electronics Technician
- Consumer Electronics Technician
- Biomedical Instrument Technician
- Audio/Visual Systems Technician
- Broadcast Radio and Television
- Research and Development
- Sales Representative, electronics and computer equipment
- Quality Control Technician

**Faculty**

**Full Time**

- Khalid Rubayi
- Tom Faro, Emeritus

**Degrees and Certificates Awarded**

- Associate in Science, Electronics and Computer Technology
- Associate in Science, Electronics Engineering Technology
- Associate Degree Electronics Engineering Technology Certificate
- A+ Certification Examination Preparation Certificate
- CISCO Networking Academy I, II, III, IV, V, VI, VII Certificate
- Computer Technology Certificate
- Communication Electronics Certificate
- Digital Electronics Certificate
- Electronics Technology Certificate
- Fiber Optic Cabling Technician Certificate
- N+ Certification Examination Preparation Certificate
- Wireless Communication Technology Certificate
- Wireless MSCSE Examination Preparation Certificate Level I, II

**Certificate Programs**

**ASSOCIATE DEGREE ELECTRONICS  
ENGINEERING TECHNOLOGY CERTIFICATE**

**Professional Preparation**

Units Required: 64.5-68.5

*All of the following must be completed:*

ELCT 131	DC Circuit Theory and Analysis	4.0
ELCT 132	AC Circuit Theory and Analysis	4.0
ELCT 133	Solid State Devices and Circuits	4.0
ELCT 134	Solid State Circuit Analysis	4.0
ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 51	C++ Programming for Electronics and Computer Technology	4.0
ELCT 71	Principles of Digital Logic and Circuits	4.0
ELCT 73	Microprocessor Principles	4.0

*One of the following two groups must be completed:*

Electronics Emphasis		
ELCT 53	Electronic Communication Principles	4.0
ELCT 54	Electronic Communication Systems	4.0

Computer Emphasis		
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 77A	Networking Technology and Practices I	4.0

Individualized instruction courses require 108 hours of supervised laboratory activities.

*All of the following must be completed:*

ELCT 57	Technical Mathematics for Electronics I	3.0
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ELCT 58	Technical Mathematics for Electronics II	3.0
ELCT 59	Technical Calculus for Electronics I	3.0
ELCT 60	Technical Calculus for Electronics II	3.0

*Students planning to transfer to an Electrical engineering program should take the following mathematics courses (instead of ELCT 57, 58, 59, and 60)*

MATH 105	College Algebra	4.0
MATH 104	Trigonometry	3.0
MATH 226	Analytic Geometry and Calculus	5.0
MATH 227	Analytic Geometry and Calculus	5.0

*Complete all other General Education, proficiency and graduation requirements for the A.S. degree.*

**COMPUTER TECHNOLOGY CERTIFICATE  
Career Preparation**

Units Required: 44.0

*All of the following must be completed:*

ELCT 131	DC Circuit Theory and Analysis	4.0
ELCT 132	AC Circuit Theory and Analysis	4.0
ELCT 133	Solid State Devices and Circuits	4.0
ELCT 134	Solid State Circuit Analysis	4.0
ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 57	Technical Mathematics for Electronics I	3.0
ELCT 58	Technical Mathematics for Electronics II	3.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 71	Principles of Digital Logic and Circuits	4.0
ELCT 73	Microprocessor Principles	4.0

**Career Option - 6 Units**

Career specialty options include individualized instruction courses that are designed to provide the student with skills and/or knowledge in a specific area of digital/microprocessor technology. Supervised time will be spent with computers, audiovisual material, and laboratory equipment to meet specific objectives. Each specialty course requires 108 hours to complete, or an average of 6 hours per week.

*One of the following career options must be completed:*

Option 1: Microprocessor Systems

ELCT 91	Microprocessor Interfacing	3.0
ELCT 92	Microprocessor Applications	3.0

Option 2: Computer Systems

ELCT 62	PC Servicing	3.0
ELCT 63	PC Troubleshooting	3.0

**CISCO NETWORKING ACADEMY CERTIFICATE  
LEVEL I**

Units Required: 17.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 80	Fiber Optics Cabling	3.0
ELCT 78A	Network Fundamentals	4.0

**CISCO NETWORKING ACADEMY CERTIFICATE  
LEVEL II**

Units Required: 17.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 80	Fiber Optics Cabling	3.0
ELCT 78B	Routing Protocols and Concepts	4.0

**CISCO NETWORKING ACADEMY CERTIFICATE  
LEVEL III**

Units Required: 17.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 80	Fiber Optics Cabling	3.0
ELCT 78C	LAN Switching and Wireless	4.0

**CISCO NETWORKING ACADEMY CERTIFICATE  
LEVEL IV**

Units Required: 17.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 80	Fiber Optics Cabling	3.0
ELCT 78D	Accessing the WAN	4.0

**CISCO NETWORKING ACADEMY CERTIFICATE  
LEVEL V**

Units Required: 17.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 80	Fiber Optics Cabling	3.0
ELCT 78E	Advanced Network Routing	4.0

#### **CISCO NETWORKING ACADEMY CERTIFICATE LEVEL VI**

Units Required: 17.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 80	Fiber Optics Cabling	3.0
ELCT 78F	Implementing Secure Converged Wide-Area Networks	4.0

#### **CISCO NETWORKING ACADEMY CERTIFICATE LEVEL VII**

Units Required: 17.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 80	Fiber Optics Cabling	3.0
ELCT 78G	Building Multilayer Switched Networks	4.0

#### **DIGITAL ELECTRONICS CERTIFICATE**

Units Required: 30.0

*All of the following must be completed:*

ELCT 131	DC Circuit Theory and Analysis	4.0
ELCT 132	AC Circuit Theory and Analysis	4.0
ELCT 133	Solid State Devices and Circuits	4.0
ELCT 134	Solid State Circuit Analysis	4.0
ELCT 57	Technical Mathematics for Electronics I	3.0
ELCT 58	Technical Mathematics for Electronics II	3.0
ELCT 71	Principles of Digital Logic and Circuits	4.0
ELCT 73	Microprocessor Principles	4.0

#### **ELECTRONICS TECHNOLOGY CERTIFICATE Career Preparation**

Units Required: 36.0

*All of the following must be completed:*

ELCT 131	DC Circuit Theory and Analysis	4.0
ELCT 132	AC Circuit Theory and Analysis	4.0
ELCT 133	Solid State Devices and Circuits	4.0
ELCT 134	Solid State Circuit Analysis	4.0
ELCT 57	Technical Mathematics for Electronics I	3.0
ELCT 58	Technical Mathematics for Electronics II	3.0
ELCT 71	Principles of Digital Logic and Circuits	4.0
ELCT 73	Microprocessor Principles	4.0

Career Option - 6 Units

Career specialty options are individualized instruction courses and are designed to provide the student with skills and/or knowledge in a specific area of Electronics technology. Supervised time will be spent with computers, audiovisual material, and laboratory equipment to meet specific objectives. Each specialty option requires 108 hours to complete, or an average of 6 hours per week.

*One of the following career options must be completed:*

Option 1: Optoelectronics		
ELCT 85	Fiber Optics	3.0
ELCT 86	Lasers	3.0

Option 2: Telecommunications		
ELCT 97	Digital Communications	3.0
ELCT 99	Microwave Communications	3.0

Option 3: Television and Video Systems		
ELCT 93	TV Servicing	3.0
ELCT 94	VCR/Camcorder Servicing	3.0

Option 4: Industrial Electronics		
ELCT 87	Industrial Control Systems	3.0
ELCT 88	Industrial Process Control Applications	3.0

Option 5: Biomedical Electronics		
ELCT 89	Biomedical Instrumentation	3.0
ELCT 90	Advanced Biomedical Instrumentation	3.0

#### **MICROSOFT CERTIFIED SYSTEMS ENGINEER (MCSE) EXAMINATION PREPARATION CERTIFICATE LEVEL I**

Units Required: 14.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 79A	Microsoft Certified Systems Engineer	4.0

**MICROSOFT CERTIFIED SYSTEMS ENGINEER (MCSE) EXAMINATION PREPARATION CERTIFICATE LEVEL II**

Units Required: 14.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 79B	Microsoft Certified Systems Engineer II	4.0

**NETWORK CABLING TECHNICIAN CERTIFICATE**

Units Required: 16.0

*All of the following must be completed:*

ELCT 131	DC Circuit Theory and Analysis	4.0
ELCT 57	Technical Mathematics for Electronics I	3.0
ELCT 132	AC Circuit Theory and Analysis	4.0
ELCT 58	Technical Mathematics for Electronics II	3.0
ELCT 69	Network Topologies and Cabling	2.0

**FIBER OPTIC CABLING TECHNICIAN CERTIFICATE**

Units Required: 17.0

*All of the following must be completed:*

ELCT 131	DC Circuit Theory and Analysis	4.0
ELCT 57	Technical Mathematics for Electronics I	3.0
ELCT 132	AC Circuit Theory and Analysis	4.0
ELCT 58	Technical Mathematics for Electronics II	3.0
ELCT 80	Fiber Optics Cabling	3.0

**A+ CERTIFICATION EXAMINATION PREPARATION CERTIFICATE**

Units Required: 15.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 65	PC Monitors	3.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 7	A+ Certification Exam Preparation	2.0

**N+ CERTIFICATION EXAMINATION PREPARATION CERTIFICATE**

Units Required: 17.0

*All of the following must be completed:*

ELCT 50	A+ Operating Systems Technologies	4.0
ELCT 61	Basic Maintenance of Personal Computers	4.0
ELCT 77A	Networking Technology and Practices I	4.0
ELCT 69	Network Topologies and Cabling	2.0
ELCT 80	Fiber Optics Cabling	3.0

**WIRELESS COMMUNICATION TECHNOLOGY CERTIFICATE**

Units Required: 38.0

*All of the following must be completed:*

ELCT 131	DC Circuit Theory and Analysis	4.0
ELCT 132	AC Circuit Theory and Analysis	4.0
ELCT 133	Solid State Devices and Circuits	4.0
ELCT 134	Solid State Circuit Analysis	4.0
ELCT 53	Electronic Communication Principles	4.0
ELCT 54	Electronic Communication Systems	4.0
ELCT 57	Technical Mathematics for Electronics I	3.0
ELCT 58	Technical Mathematics for Electronics II	3.0
ELCT 71	Principles of Digital Logic and Circuits	4.0
ELCT 73	Microprocessor Principles	4.0

**SPECIAL PROGRAMS FEDERAL COMMUNICATIONS COMMISSION (FCC) COMMERCIAL RADIO OPERATOR LICENSE**

FCC licenses are required by law to operate and maintain many types of communications equipment. The broadcasting, avionics, and maritime industries are the primary employers of commercial license holders. Many other fields now require FCC licenses. New technologies are evolving which must have qualified technicians and operators to comply with the procedures and rules needed to bring order to the international communications maze.

Under the auspices of the Electronics Technician Association and the International (ETA), FCC license examinations are administered at the Electronics and Computer Technology Department by an official ETA examiner. An examination fee is required.

The following FCC commercial licenses and endorsements are obtained by successfully passing a series of examinations:

General Radiotelephone (Examination elements 1 and 3)

Radar Endorsement (Element 8)  
 GMDSS', Radio Operator (Elements 1 and 7)  
 GMDSS', Radio Maintainer (Elements 1, 3, and 9)

Examination schedules can be obtained by contacting the Electronics and Computer Technology Department.

An FCC license preparation course also is offered (see course offerings in the Electronics and Computer Technology Department in the Victor Valley College Catalog).

Note: (1) Global Maritime Distress and Safety System

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### **CERTIFIED ELECTRONICS TECHNICIAN (CET) CERTIFICATION**

CET examinations thoroughly assess an individual's (a) general knowledge of electronics and computer technology, and (b) specific knowledge in fourteen separate specialty areas. Upon successful completion of the selected examination, the technician is registered and receives the CET certificate from the Electronics Technician Association, International. This certificate identifies the technician as having attained a high level of competence in the profession.

Under the auspices of the Electronics Technician Association, International (ETA), CET examinations are administered at the Electronics and Computer Technology Department by an official ETA examiner. An examination fee is required.

The following Electronic Technician Certifications and endorsements are obtained by successfully passing a series of examinations:

Associate: For students and entry level technicians with less than four years of experience. This examination pertains to basic Electronics and computer technology.

Journeyman: For technicians with four or more years of combined education and experience. This examination consists of the associate examination plus one of the following options:

- Telecommunications Electronics Technician - TCM
- Certified Network Systems Technician - CNST
- Certified Web Specialist - CSW
- Registered Small-Dish Installer - RSDI
- Certified Satellite Installer - CSI
- Certified Fiber Optics Installer Technician - FOIC
- Wireless Communications Electronics Technician - WCM
- Radar Electronics Technician - RAD
- Biomedical Electronics Technician - CMP
- Certified Computer Electronics Technician - CMP
- Consumer Electronics Technician - CSM
- Video Electronics Technician - VID
- Certified Industrial Electronics Technician - IND
- Certified Network Computer Technician - CNCT

Examination schedules can be obtained by contacting the Electronics and Computer Technology Department.

A CET certification preparation course also is offered (see course offerings in the Electronics and Computer Technology Department in the Victor Valley College catalog).

### **Associate Degree**

To earn an Associate in Science degree with a major in Electronics and Computer Technology, complete a minimum of 18 units from any of the certificate requirements above or from any Electronics and Computer Technology courses and meet all Victor Valley College graduation requirements. The Associate Degree Electronic Engineering Technology Certificate includes all general education requirements for an Associate in Science degree with a major in Electronic Engineering Technology. ELCT 138 (Cooperative Education) may be used as Elective credit, but may not be used to fulfill major requirements.

### **Transfer**

Most Electronics and Computer Technology courses transfer as Electives or fulfill subject credit requirements. Students in this field sometimes choose to pursue a bachelor's degree in technology fields such as Industrial Technology at California State Polytechnic University, San Luis Obispo, or Engineering Technology at California State Polytechnic University, Pomona. Other students choose to pursue an Engineering degree which requires a more intense curriculum in mathematics, chemistry, and physics. See Engineering for transfer requirements.

Campuses that offer Electronics and Computer Technology majors include: CSU - Chico, Fullerton, Long Beach, Pomona and Sacramento. Visit [www.assist.org](http://www.assist.org) for major preparation requirements.

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## **ELECTRONICS AND COMPUTER TECHNOLOGY COURSES**

### **ELCT 5 CET EXAM PREPARATION**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

Covers all electronic circuits required by the Electronics Technicians Assn. International for successful completion of the Certified Electronic Technician examination. Includes DC and AC circuits, filters, thyristors, transistors, diodes, power supplies, and voltage regulators; also covers test equipment used in electronics including voltmeters, ammeters, oscilloscope frequency meters, and VTVM's's. This course will not apply to the Associate Degree.

### **ELCT 6 FCC LICENSE PREPARATION**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)



Designed for students enrolled in Electronics Communications Systems. Topics include Element 3 Examination (General Radio Telephone) - provisions of laws, treaties and regulations, radio operating procedures and practices; technical matters including fundamentals of electronics technology and maintenance techniques. This course will not apply to the Associate Degree.

#### **ELCT 7 A+ CERTIFICATION EXAMINATION PREPARATION**

Units: 2.0 - 64-72 hours individualized instruction. (No prerequisite)

The A+ Certification Examination Preparation course is designed to prepare students for the A+ Certification Test. The course consists of three main elements: (1) a test simulation and review software program that provides practice tests with realistic questions, (2) an A+ Certification Program "Student Guide," and (3) access to a 5800 page reference library consisting of ten textbooks. This course will not apply to the Associate Degree.

#### **ELCT 50 A+ OPERATING SYSTEMS TECHNOLOGIES**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course is designed to prepare students to take the A+ Operating Systems Technologies Examination. Topics include operating system fundamentals; Windows 2000, Windows XP and Windows XP Media Edition; installing, configuring and upgrading windows; diagnosing, troubleshooting common problems; dual booting, registry editing, command line troubleshooting; network capabilities, configuring and connecting to resources and networks on the client side.

#### **ELCT 51 C++ PROGRAMMING FOR ELECTRONICS AND COMPUTER TECHNOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option).

This course is designed to introduce students to C++ programming for scientific applications in engineering technology through lecture and lab. Topics will include writing C++ routines for analysis of electrical and electronics circuits, real time data acquisition and analysis, modeling of electronics components, interfacing with LabView for data collection and processing, interfacing with MathCAD and Workbench.

#### **ELCT 53 ELECTRONIC COMMUNICATION PRINCIPLES**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

Study of all relevant aspects of modern communication principles. Topics include amplitude modulation transmission and reception, single-side band communications, frequency modulation transmission and reception, television, and communications techniques.

#### **ELCT 54 ELECTRONIC COMMUNICATION SYSTEMS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

A study of modern communication systems. Topics include digital and data communications, transmission lines, wave propagation, antennas, wave guides and radar, microwave and lasers, and fiber optics.

#### **ELCT 57 TECHNICAL MATHEMATICS FOR ELECTRONICS I**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course is designed to provide a basis for a clear mathematical understanding of the principles of DC electricity and electronics and their analysis. Covered are algebra, equations, power of 10, units and dimensions, special products and factoring, algebraic fractions, fractional equations, graphs, simultaneous equations, determinants and matrices, exponents and radicals, and quadratic equations.

#### **ELCT 58 TECHNICAL MATHEMATICS FOR ELECTRONICS II**

Units: 3.0 - 48-54 hours lecture.. (No prerequisite)

This course is designed to provide a basis for a clear mathematical understanding of the principles of AC electricity and electronics and their analysis. Covered are inequalities, series, angles, trig functions, solution of right triangles, trig identities and equations, plane vectors, periodic functions, phasor algebra, and logarithms.

#### **ELCT 59 TECHNICAL CALCULUS FOR ELECTRONICS I**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course is designed for students who are preparing for careers in electronics, electricity, computers, and related technical fields. Topics include fundamental concepts, introduction to calculus for electronics, functions, rates, limits, graphic differentiation, basic operations, derivatives, differentials, maxima and minima, and integrals.

#### **ELCT 60 TECHNICAL CALCULUS FOR ELECTRONICS II**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course in technical calculus for electronics continues the study of functions and further operations. Topics includes trig functions, logarithmic and exponential functions, hyperbolic functions, partial derivatives, integration techniques, double integrals, infinite series, MacLaurin series, Taylor series, Fourier series, and introduction to differential equations.

#### **ELCT 61 BASIC MAINTENANCE OF PERSONAL COMPUTERS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This hands-on course is designed to provide non-technical personal computer (PC) users with the skills necessary to service and upgrade PCs. Activities include: computer assembly and disassembly, disk drive removal and installation, and memory expansion with integrated circuit (IC) chips. Installation and check out of special functions boards, such as FAX/modem, also will be demonstrated. Lectures describing the PC and its components are augmented with computer-aided individualized instruction modules covering selected electronic principles related to the PC. Satisfies computer industries A+ certification requirements.

#### **ELCT 62 PERSONAL COMPUTER (PC): SERVICING**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

This hands-on course is designed to provide non-technical personal computer (PC) users with the skills necessary to service and upgrade PCs. Activities include computer assembly and disassembly, disk drive removal and installation memory, installation and upgrade. Demonstration of installation and check out of special function boards, such as FAX/modem, network interface card (NIC), video card and sound card. Lectures describing the PC and its components are augmented with computer-aided individualized instruction modules covering selected electronic principles related to the PC. Satisfies computer industries' A+ certification requirements.

#### **ELCT 63 PERSONAL COMPUTER (PC): TROUBLESHOOTING**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

This course is a continuation of ELCT 95, Personal Computing Servicing. This hands-on course is designed to provide comprehensive troubleshooting down to the component level. Topics include computer circuits, central processing unit (CPU) and support circuits, system monitors, input/output (I/O), system and secondary cache memory, video, disk drives and their control, and troubleshooting techniques.

#### **ELCT 65 PC MONITORS**

Units: 3.0 -96-108 hours individualized instruction. (No prerequisite)

This hands-on course covers the fundamentals of troubleshooting and repairing PC monitors. Major topics include signal inputs, external adjustments, components and circuit identification, power supply, video, vertical, and horizontal drive circuits, and troubleshooting. The student will utilize multimeters, signal generators, and oscilloscopes to troubleshoot various monitor faults. This course meets the objectives of the PC monitor section of the A+ certification examination.

#### **ELCT 69 NETWORK TOPOLOGIES AND CABLING**

Units: 2.0 - 64-72 hours individualized instruction. (No prerequisite)

This course provides both the technical instruction and the practical maintenance skills required to identify and layout common network topologies, and the type of cabling required for each. The course also includes hands-on projects configuring both a bus and star network, constructing the appropriate cables, installing the proper connectors, and testing the system using standard testing equipment.

#### **ELCT 70 PC OPERATING SYSTEMS**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

This course provides the student with the necessary background working with MS DOS 6.22 and MS Windows 3.11 for Workgroups to successfully pursue the A+ certification program. This is a self-paced program that utilizes computer aided instruction (CAI) as the principle instruction tool.

#### **ELCT 71 PRINCIPLES OF DIGITAL LOGIC AND CIRCUITS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course covers semiconductors for digital circuits, digital logic circuits and digital integrated circuits; introduces Boolean Algebra, flip-flops and registers, sequential logic circuits and combinational logic circuits. Students learn how digital circuits are used in semiconductor memories; how data is converted from analog-to-digital and digital-to-analog formats; and how to troubleshoot digital circuits.

#### **ELCT 73 MICROPROCESSOR PRINCIPLES**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course covers computer number systems and codes, computer arithmetic, programming, the internal

register, structure of the 6800 and 6808 micro-processors, microprocessors interfacing to RAM, ROM, and various input/output devices, input and output data operations through a peripheral interface adapter, and applications of the PIA.

### **ELCT 78A NETWORK FUNDAMENTALS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

The goal of this course is to introduce students to fundamental networking concepts and technologies. It will assist students in developing the skills necessary to plan implement small networks across a range of applications. Topics include OSI and TCP/IP models, different network topologies, IP addressing and subnetting. Satisfies Cisco Certified Network Associate (CCNA) certification exam requirements.

### **ELCT 78B ROUTING PROTOCOLS AND CONCEPTS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students with hands-on approach will be able to analyze, configure, verify and troubleshoot routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Satisfies Cisco Certified Network Associate (CCNA) certification exam requirements.

### **ELCT 78C LAN SWITCHING AND WIRELESS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course provides a comprehensive and practical approach to learning the technologies and protocols needed to design and implement a converged switched network. Students will learn how to select network devices for each layer. The course explains how to configure a switch and how to implement Virtual LANs, VTP, Inter-VLAN routing. It also discusses the implementations of Spanning Tree Protocol. Students will develop the skills necessary to implement a Wireless LAN in a small to medium network. Satisfies Cisco Certified Network Associate (CCNA) certification exam requirements.

### **ELCT 78D ACCESSING THE WAN**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course discusses the Wide Area Network (WAN) technologies and network services required to gain access outside the Local Area Network (LAN). Students learn in a hands-on approach how to implement and configure different technologies to access the WAN. Topics include Point-to-Point Protocol (PPP), Frame

Relay, Network Security, Access Control Lists (ACLs), Virtual Private Networks (VPN), Network Address Translation (NAT) DHCP and IPv6. Satisfies Cisco Certified Network Associates (CCNA) certification exam requirements.

### **ELCT 78E ADVANCED NETWORK ROUTING**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course is the first of a four course series designed to prepare students towards the Cisco Certified Network Professional (CCNP) certification. It introduces students to advanced IP address management, scaling IP networks, IP addressing using VLSM, private addressing, and NAT to optimize address utilization. Majority of the course deals with advanced topics in configuring routing protocols (RIPv2, EIGRP, ISIS, multi-area OSPF, and BGP), also covers important topics and techniques for route filtering, route optimization and route redistribution.

### **ELCT 78F IMPLEMENTING SECURE CONVERGED WIDE-AREA NETWORKS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This is the second course of a four course series designed to prepare students for Cisco's (CCNP) certification. This course will cover advanced topics in Wide Area Network (WAN). Students learn with hands-on approach how to configure and implement different WAN technologies with focus on VPN configuration and securing network access. Topics include teleworker configuration and access, frame-mode MPLS, site-to-site IPSEC VPN, Cisco EZVPN, strategies used to mitigate network attacks, Cisco device hardening and IOS firewall features.

### **ELCT 78G BUILDING MULTILAYER SWITCHED NETWORKS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This is the third of a four course series designed to prepare students for Cisco's (CCNP) certification. This course will cover advanced topics in building Multilayer Switched Networks. Students learn with hands-on approach how to deploy state-of-the-art campus LANs. Topics include VLANs, Spanning Tree Protocol (STP), VTP, Inter-VLAN Routing, Layer three Switches, Wireless Client Access, Voice over IP (VoIP) Switch Configuration, Redundancy and Fault Tolerance.

### **ELCT 78H OPTIMIZING AND TROUBLESHOOTING NETWORKS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This is the fourth and last course of a four course series designed to prepare students for Cisco's CCNP certification. This course will cover advanced topics in optimizing and troubleshooting converged networks. Students learn with hands-on approach how to implement, optimize and troubleshoot networks operating voice, wireless and security applications. Topics include implementing a Voice over IP (VoIP) network, implementing Quality of Services (QoS) on converged networks, specific IP QoS mechanisms for implementing the DiffServ QoS model, AutoQoS, wireless security and basic wireless management.

#### **ELCT 78I FUNDAMENTALS OF NETWORKING SECURITY**

Units: 4.0 - 48 hours lecture and 48 hours laboratory. (No prerequisite)

This course is designed to teach students in a hands-on lab environment fundamentals of network security. Topics include Securing the Perimeter Router, Site-to-Site Virtual Private Network (VPN), Remote Access VPN, Intrusion Detection System (IDS), Cisco PIX Security Appliance, analyzing network vulnerabilities, threats, securing the network from reconnaissance attacks, access attacks, Denial of Service (DoS) attacks, Distributed DoS attacks, Worms, Trojan horse and viruses. This course prepares students to take one of the required tests for the Cisco Certified Security Professional (CCSP) certification, and CompTIA Security+ certification.

#### **ELCT 78J FUNDAMENTALS OF WIRELESS LANS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course focuses on the design, installation, configuration, operation and troubleshooting of 802.11a, 802.11b, 802.11g, 802.11n wireless LANs. It delivers a comprehensive overview in a hands-on lab environment of wireless technologies, security, design, and best practices with emphasis on real world applications and case studies. Topics include wireless radio technology, wireless topologies, antennas, access points, bridges, wireless security, Guest VLAN, site survey, installation, management, diagnostic tools, monitoring, and discussions on wireless emerging technologies. It also prepares students towards obtaining Cisco Wireless LAN Support Specialist certificate.

#### **ELCT 79A MICROSOFT CERTIFIED SYSTEMS ENGINEER**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option)

This is the first of a series of courses required for Microsoft MCSE certification. Topics will include installing Windows 2000 Professional, installing Windows 2000 by using Windows 2000 Server Remote

Installation Services (RIS), deploy service packs, manage and troubleshoot access to shared folders, manage shared printers, configure Advance Power Management (APD), encrypt data by using Encrypting File System (EFS), manage hardware profiles, and configure and troubleshoot TCP/IP protocol.

#### **ELCT 79B MICROSOFT CERTIFIED SYSTEMS ENGINEER II**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite Recommended: ELCT 79A Microsoft Certified Systems Engineer. Grade Option)

The second in a series of courses required for Microsoft MCSE certification. Topics include: installing and configuring Microsoft Windows 2000 server; unattended installation of Windows 2000 server; Microsoft Windows 2000 file systems and advanced file systems; active directory services; administering Microsoft Windows 2000 server; administering print services; network protocols and services; routing and remote access services; Microsoft Windows 2000 security; monitoring and optimization; Microsoft Windows 2000 application servers.

#### **ELCT 80 FIBER OPTICS CABLING**

Units: 3.0 - 96-108 hours individualized instruction. (Prerequisite: ELCT 69)

This course is designed to introduce students to fiber optic communications, transfer equipment and cabling. Students will explore fiber optics theory, operation of transfer equipment, assembly and repair of fiber optic cabling.

#### **ELCT 81 SOLDERING THEORY AND TECHNIQUES**

Units: 1.0 - 32-36 hours individualized instruction. (No prerequisite)

This hands-on course is designed to provide the student basic soldering theory and techniques. Topics include: soldering theory, types of soldering irons, soldering iron tips, soldering guns, solder connections, and unsoldering techniques. Course includes construction project.

#### **ELCT 83 SMALL OFFICE/HOME OFFICE (SOHO) NETWORKING**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option)

Small Office/Home Office (SOHO) course is designed for persons with little or no background in networking technologies to setup, operate, maintain and troubleshoot office/home Local Area Network (LAN). Topics include: Networking Components Identification and Installation, Installing, Configuring and Troubleshooting Basic Local Area Networks, wireless

Networking, Internet Access and Sharing, SOHO Network Security and Virus Protection, Microsoft Windows 2000/XP Network configuration and Resource Sharing, Video Conferencing for Telecommuters, and VoIP Networking.

#### **ELCT 84 COMPUTER NETWORKING**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

Students learn how to formulate network specifications, install, and maintain local area computer networks (LAN). Topics and activities include: fundamentals and protocols of data communications and communication architectures, selection, preparation, and installation of LAN cabling, network operating systems, and troubleshooting. Students will install and configure modems, connect telephone lines, operate modems, and transfer files. Satisfies computer industries A+ certification requirements.

#### **ELCT 85 OPTOELECTRONICS: FIBER OPTICS**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

This high-technology laboratory course demonstrates the use of fiber optics in a wide range of applications including office copy machines, biomedical instruments, telephone communications, aircraft equipment, consumer products and motor vehicles. Topics include: operation and application of light emitters, detectors, fiber optic cables and associated hardware, data transfer, bar code scanning, and contactless switching.

#### **ELCT 86 OPTOELECTRONICS: LASERS**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

Continuation of ELCT 85. This high technology laboratory course emphasizes the principles and applications of lasers as used in telecommunications, consumer electronics, biomedical electronics, and industry. Topics include: Principles of lasers, laser optics, drive and modulation circuits, lasers and fiber optics links, and audio video subcarrier modulation.

#### **ELCT 87 INDUSTRIAL ELECTRONICS: INDUSTRIAL CONTROL SYSTEMS, DEVICES AND CIRCUITS**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

This course is designed to provide the student an opportunity to study a wide range of applications of electronics found in industrial automation and robotics. Topics include: operational amplifiers, linear integrated circuits, generators and motors, control devices and circuits, transducers, programmable logic controllers

(PLCs), PLC functions, ladder logic, programming and applications.

#### **ELCT 88 INDUSTRIAL ELECTRONICS: INDUSTRIAL PROCESS CONTROL APPLICATIONS**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite).

This course is designed to demonstrate a wide variety of electronic control systems and circuits which are controlled both manually and by use of the programmable logic controller (PLC). Topics include: motors and generators, control devices, timing control, motor control, counting, position control, servomechanisms, and applications and troubleshooting.

#### **ELCT 91 MICROPROCESSOR INTERFACING**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

This course is designed to give the student a practical working knowledge of interfacing a microprocessor with external sensing and activator systems. Topics include microprocessor basics, buses, address decoding, 68HC11 chip structure and internal features, instruction timing, switch decoding, interfacing with displays and adapters, I/O control techniques, data communications, serial/parallel conversion, interfacing to RAM, EPROMs, analog-to-digital and digital-to-analog devices.

#### **ELCT 92 MICROPROCESSOR APPLICATIONS**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

Continuation of Microprocessor Interfacing. This course concentrates on specific applications related to instrumentation and physical measurement. Activities include constructing a microprocessor-controlled digital multimeter (DMM), thermometer, light meter, and photometer. The student will analyze how strain gauges are used to measure force. The student will design and construct a microprocessor/step motor interface and control circuit.

#### **ELCT 97 TELECOMMUNICATIONS: DIGITAL COMMUNICATIONS**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

This high technology laboratory course is designed to provide a broad background in the use of digital devices used in telephony, as well as in general digital communications. Emphasis is placed on the telephone industry, both wireless and fiber optics telecommunications, and synthetic speech. Topics include: digital communications, the subscriber telephone, the central office, and digitized speech.

**ELCT 99 TELECOMMUNICATIONS: MICROWAVE COMMUNICATIONS**

Units: 3.0 - 96-108 hours individualized instruction. (No prerequisite)

This high technology laboratory course is designed to provide a broad background in the use of microwave transmitters, receivers, microwave components, and horn antennas. Emphasis is placed on microwave communication links. Topics include: voice, narrow band, audio wideband, television, video, fiber optics interfaces, pulse code modulation, and multiplexing signals.

**ELCT 110 ELECTRONICS AND COMPUTER TECHNOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course is designed to expose students to a wide range of electronics and computer technologies in a simplified, practical and non-mathematical hands-on approach. Topics will include electronics and computers applied to automotive and medical fields, global positioning satellites (GPS), home entertainment systems, surround sound and digital flat panel TVs, digital music compression and recording, Internet, wireless and wired networking in the house, computer hardware setup and operation, how to use personal computer (PC) applications, basic PC diagnostics, upgrade and troubleshooting.

**ELCT 131 D.C. CIRCUIT THEORY AND ANALYSIS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. Offered Fall, Spring. (No prerequisite)

An in-depth analysis of DC theory and circuit operation. Topics include applications of Ohm's Law, Kirchhoff's Laws and their applications to series, parallel and series-parallel circuits, voltage dividers and bridge circuits, magnetism, electromagnetic induction, and network theorems, and an introduction to alternating voltages and currents.

**ELCT 132 A.C. CIRCUIT THEORY AND ANALYSIS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

An in-depth analysis of AC circuit theory and circuit operation. Topics include the characteristics of inductors and capacitors and their response in AC circuits, RC and RL time constants, alternating current circuits, complex number analysis, network analysis for AC circuits, resonance, filters.

**ELCT 133 SOLID STATE DEVICES AND CIRCUITS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

Semiconductor theory, algebraic and graphical analysis of semiconductor devices. To include bi-polar and field effect transistors, DC stability design and analysis, small signal parameters and AC equivalent circuits, class A and B power amplifiers, class C and other amplifiers, and frequency effects.

**ELCT 134 SOLID STATE CIRCUIT ANALYSIS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

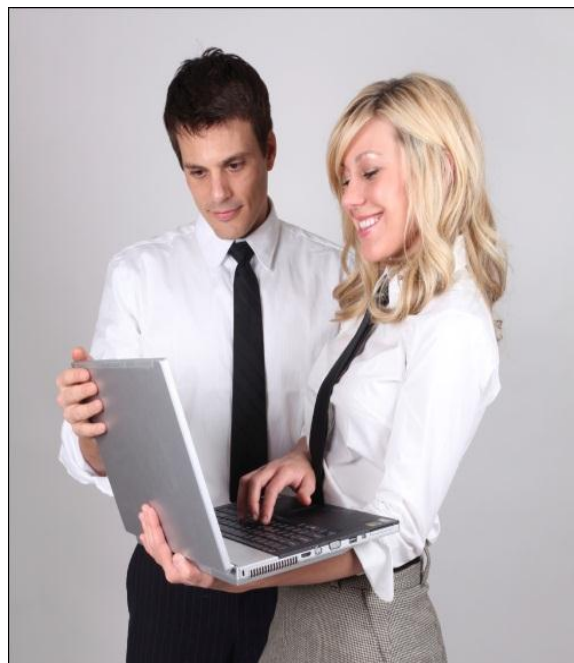
Course focuses on linear-integrated circuits and their use in the design of circuits and instruments. Topics include operational amplifier theory and linear circuits, nonlinear OP-Amp circuits, regulated power supplies, oscillators and timers, thyristors, frequency domain, and frequency mixing.

**ELCT 138 COOPERATIVE EDUCATION**

See Cooperative Education (1 - 8 units). CSU

**ELCT 148 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU



**EMERGENCY MEDICAL TECHNICIAN**

The EMT I is the beginning level for emergency response personnel. It is the minimum preparation required to staff an ambulance.

EMT I can be completed in one class. Classes in this area meet California State EMS authority and ICEMA regulations.

**Career Opportunities**

Emergency Medical Technician

**Faculty**

**Full Time**

Brian Hendrickson  
Scott Jones  
Dave Oleson

**Degrees and Certificates Awarded**

Emergency Medical Technician I Certificate (Ambulance)  
Emergency Medical Technician Certificate (Refresher)

**Recommended preparation for EMT**

*Note: Although there is currently no prerequisite for the EMT course, students might wish to consider taking the following as an introduction:*

ALDH 70 Emergency Medical Responder 2.5 units

**Certificate Programs**

**EMERGENCY MEDICAL TECHNICIAN I CERTIFICATE (AMBULANCE)**

Units Required: 9.0

Complete the online Orientation prior to the first day of class; visit <http://www.vvc.edu/academic/emt/>

ALDH 71	Emergency Medical Technician I (Ambulance)	9.0
	Valid for two years from date of issue.	

**EMERGENCY MEDICAL TECHNICIAN CERTIFICATE (REFRESHER)**

Units Required: 1.0

Required for renewal of Emergency Medical Technician Certificate

ALDH 72	Emergency Medical Technician (Ambulance) Refresher Course	1.0
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**ENGINEERING**

Victor Valley College does not offer this program, but does offer preparatory courses needed for transfer into Engineering.

Engineers seek to understand and solve a broad range of technological problems faced by our society. Engineers are responsible for such projects as converting raw materials and power sources into useful products, developing scientific equipment, and designing and planning the construction of buildings, highways, and rapid transit systems. As society becomes more technologically complex, so do the ever-emerging branches of engineering.

The rigorous curriculum of engineering programs is for high achieving students who have developed good study habits and possess a strong math and science background.

**Degrees and Certificates Awarded**

Associate in Science, Math/Science

**Associate Degree**

No associate degree offered with a major in Engineering from Victor Valley College. Because the math and science requirements are so extensive, students usually pursue an associate degree with a major in Math/Science.

**Transfer**

Engineering is a highly competitive transfer degree which is impacted at many universities. The following courses are minimal requirements for most engineering majors: CHEM 100, 201, 202; MATH 226, 227; PHYSICS 100, 201, 202, 203.

IGETC or CSU General Education-Breadth Requirements are not always appropriate for an engineering major; for the most current information, visit [www.assist.org](http://www.assist.org).

■ **University of California, Riverside**

*Chemical Engineering*

■ **California State University**

*CSU Campuses that offer Engineering majors include: Chico, Fresno, Long Beach, Los Angeles, Northridge, Pomona, Sacramento, San Diego, San Francisco, San Jose, San Luis Obispo and Maritime Academy.*



**ENGLISH**

The study of English offers the student development of writing skills as well as an appreciation of literature. The discipline of reading and writing about the human experience is a vital foundation for all learning.

Since English composition courses are designed to help the student write the kinds of papers commonly required in college courses, the student's first course in composition should be taken during the first semester (15 units) of college work, and the second course during the second semester (15 to 30 units)

**Career Opportunities**

B.A. Level (Most careers require a bachelor's degree.)

Copywriter  
Creative Writer  
Editor  
Journalist  
Library Reference Worker  
Magazine Writer  
Proofreader  
Public Relations Worker  
Researcher  
Technical Writer  
Teacher  
Professor

**Faculty****Full Time**

Tim Adell  
Claudia Basha - Emeritus  
Bryce Campbell  
Andrea Glebe  
Patty Golder  
Carol Golliver - Emeritus  
Joe Pendleton  
Judy Solis  
Patricia Teel  
Karen Tomlin  
Patricia Wagner

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts

**Certificate Program** No certificates awarded.

**Associate Degree**

No associate degree offered with a major in English. English courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements. ENGL 138 (Cooperative Education) may be used as Elective credit, but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop

by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**  
*English major*

■ **University of California, Riverside**  
*English major*

**ENGLISH COURSES****ENGL 6 BASIC READING AND WRITING**

Units: 4.0 - 64-72 hours lecture. This course will not apply to the associate degree. (No prerequisite.)

This is a basic reading and writing course designed to build reading comprehension at both literal and inferential levels and to build proficiency in the basics of writing expository prose. This course emphasizes the connections between reading and writing.

**ENGL 8 READING IMPROVEMENT**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the associate degree. (No prerequisite)

The course emphasizes the improvement of vocabulary and reading comprehension skills. Course work focuses on comprehension, analysis and evaluation of textbooks and other pre-college level reading materials. Assignments develop study strategies such as textbook marking, test taking and concentration.

**ENGL 10.0 LABORATORY IN WRITING**

Units: 1.0 - 48-54 hours laboratory. This course does not apply to the Associate Degree. (No prerequisite. Pass/No Pass.) This course may be taken four times.

This lab in the Writing Center is recommended for students taking any writing-intensive course at VVC. Emphasis is on the one-to-one tutorial approach, computer-assisted instruction, and word composing/processing.

**ENGL 50 WRITING FUNDAMENTALS**

Units: 4.0 - 64-72 hours lecture. (Prerequisite: ENGL 6 or eligibility as determined by VVC assessment.)

A practical writing course emphasizing expository writing, including planning, organizing, composing short essays, reading a variety of college preparatory texts, and editing for punctuation, diction, usage and sentence structure.

**ENGL 50L LABORATORY-ENHANCED STUDY FOR ENGLISH 50**

Units: 1.0 - 64-72 hours lecture. (Prerequisite: ENGL 6 or eligibility as determined by VVC assessment.)



A Laboratory enhanced study concurrent with English 50 for students participating in the Student Support Services program. A practical course supplementing the process and function of expository writing, including a review of spelling, punctuation, diction, usage, and sentence structure.

**ENGL 59 EFFECTIVE READING AND STUDY SKILLS**  
Units: 3.0 - 48-54 hours lecture.

This course is designed for students reading just below college level and preparing to take transfer level courses. Assignments focus on comprehension, analysis and evaluation of textbooks and other college level reading materials. Emphasis is placed on reading skills including study methods, vocabulary development and critical thinking. The strategies apply to a wide range of fields including drama, history, natural science and psychology.

**ENGL 61 TUTORING WRITING**

Units: 3.0 - 48-54 hours lecture. (Prerequisite: ENGL 101.0 or ENGL H101 with a grade of 'C' or better)

This course will expose students to the theoretical concepts and practical issues involved in tutoring various levels of writing. Students will develop an understanding of the issues and practices relevant to the role of tutoring writing through observing, reading, and discussing the relationship between the writer, his/her writing, the tutor, the classroom teacher, and the classroom environment.

**ENGL 62 WRITING TUTOR WORKSHOP**

Units: 1.0 - 16-18 hours lecture. (Prerequisite: ENGL 101 or ENGL H101 with a grade of 'C' or better. Pass/No Pass)

This is an interactive course that analyzes the techniques of tutoring writing. Students will examine the role of writing tutors in one-on-one conferences, discuss tutoring theory, and observe tutors in the Writing Center and/or composition instructors in the classroom. Though this class is meant to prepare students to tutor writing, any student wishing to improve his/her writing skills will benefit from this course.

**ENGL 65 COLLEGE GRAMMAR**

Units: 2.0 - 32-36 hours lecture. (Prerequisite: ENGL 6. Grade Option)

This course provides intensive college-level work on grammar, punctuation, and mechanics, providing practice and practical applications.

**ENGL 101.0 ENGLISH COMPOSITION AND READING**

Units: 4.0 - 64-72 hours lecture. CSU, UC (Prerequisite: Completion of ENGL 50 with a grade of 'C' or better or eligibility as determined by VVC assessment.)

This course is designed to develop skills in analytical reading and expository writing. It will place particular emphasis on the research process, including the principles and methods of research and composing the research paper.

**ENGL H101 HONORS ENGLISH COMPOSITION AND READING**

Units: 4.0 - 64-72 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 50 with a grade of 'C' or better.)

This course emphasizes the basic approaches to writing that will be necessary in college: research, textual analysis, critical applications and discussion of texts and ideas. The class demands greater depth of research and discussion, and emphasizes the seminar approach to learning.

**ENGL 102.0 COMPOSITION AND LITERATURE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 101.0 or ENGL H101 with a grade of 'C' or better.)

An introduction to the genres of literature including short story, poetry, drama, and novel. Further training in writing especially about literature.

**ENGL H102 HONORS COMPOSITION AND LITERATURE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 101.0 or ENGL H101 with a grade of 'C' or better.)

Further training in writing and introduction to the short story, novel, poetry, and drama. The honors seminar will deepen students' insights into literature and into the process of writing about it.

**ENGL 104 CRITICAL THINKING AND COMPOSITION**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 101.0 or ENGL H101 with a grade of 'C' or better or eligibility as determined by VVC assessment.)

This course is designed to develop the student's critical thinking, reading and writing skills beyond the level achieved in English 101.0. It will focus primarily on the analysis and evaluation of expository and argumentative discourse and on writing analytical and argumentative essays.

**ENGL H104 HONORS CRITICAL THINKING AND COMPOSITION**

Units: 3.0 - 48-54 hours lecture. CSU,UC (Prerequisite: completion of ENGL 101.0 or ENGL H101 with a grade 'C' or better or eligibility as determined by VVC assessment.)

This course is designed to develop the student's critical thinking, reading, and writing skills beyond the level achieved in ENGL 101.0.

**ENGL 109 CREATIVE WRITING**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Recommendation preparation: ENGL 101.0. Grade Option)

Principles of creative expression. Topics may cover fiction, poetry, creative nonfiction, and/or drama.

**ENGL 112 TECHNICAL WRITING**

Units: 3.0 - 48-54 hours lecture. CSU. (Prerequisite: ENGL 101 or ENGL H101 with a grade of 'C' or better)

Principles of effective writing in a variety of formats to suit specific technical audiences. Clarity and accuracy in written communication situations are stressed. Topics include formal and informal reports, special business letters, instructions, and proposals. Designed to simulate the technical writer's job.

**ENGL 116 AUTHORS OF THE THEATRE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A survey of playwrights from the Greeks to the present. The selected plays are read, discussed, and analyzed. It is both AA and BA applicable. See cross listing for TA 116.

**ENGL 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC

**ENGL 129 INDEPENDENT STUDY**

See Independent Study (1-3 units). CSU

**ENGL 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**ENGL 149 CRITICAL READING AND COLLEGE STUDY SKILLS**

Units: 3.0 - 48-54 hours lecture. CSU. (Prerequisite: ENGL 59 with a grade of 'C' or better)

A college reading course emphasizing interpretive, analytical, and evaluative abilities required for academic reading; college vocabulary, research, and study skills.

**ENGL 162 NATIVE AMERICAN LITERATURE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite; ENGL 102.0 is recommended.)

An introduction to Native American literature from the oral tradition to contemporary writing. Study of myths and legends, traditional oral narratives and songs, transitional forms such as oration and autobiography, and written genres (poem, short story, novel).

**ENGL 210 FICTION WRITING**

Units: 3.0 - 48-54 hours lecture. CSU. (Prerequisite: ENGL 109. Grade Option.)

Principles of writing advanced fiction, focusing on the short story and the novel.

**ENGL 211 POETRY WRITING**

Units: 3.0 - 48-54 hours lecture. CSU. (Prerequisite: ENGL 109. Grade Option.)

A workshop-style course which includes a review of forms, poetic techniques, and revision strategies.

**ENGL 220 MODERN FICTION**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 102.0 or ENGL H102 with a minimum grade of 'C'. Grade Option.)

Twentieth century literature, both English language and translated sources, emphasizing novels and short stories.

**ENGL 225 POETRY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 102.0 or ENGL H102 with a grade of 'C' or better)

British and American poetry with consideration of versification, structure, imagery, diction, themes, and genres.

**ENGL 230 SURVEY OF AMERICAN LITERATURE 1600-1865**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 102.0 or ENGL H102 with a grade of 'C' or better)

A survey of exemplary items in the origin and development of American thought and culture from 1600 to 1865. Designed to provide an understanding and appreciation of American literary achievements through

study of the works of writers including Bradford and Bradstreet, Edwards and Wheatley, Franklin, Irving, Poe, Stowe and Emerson. Also includes a study of Native-American folk tales and slave narratives.

### **ENGL 231 SURVEY OF AMERICAN LITERATURE 1865 TO PRESENT**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 102.0 or ENGL H102 with a grade of 'C' or better)

A survey of exemplary items in the origin and development of American thought and culture from 1865 to the present. Designed to provide an understanding and appreciation of American literary achievements through study of the works of great writers including Whitman, Dickinson, Twain, Frost, Welty, Thurber, Tan and others.

### **ENGL 232 CHICANO/A AND LATINO/A LITERATURE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 101.0 or ENGL H101)

Introduction to the Mexican/American/Latino/a cultural experience through literary analysis of fiction, poetry, drama, and the essay. Studies literature in the context of literary/historical-political growth of Mexican/American/Latino/a identity and of current theories of analyzing multicultural writings.

### **ENGL 233 AFRICAN AMERICAN LITERATURE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 102.0 or ENGL H102 with a grade of 'C' or better)

An introductory survey course of African American oral and written literary traditions with consideration of historical and cultural roots.

### **ENGL 235 CHILDREN'S LITERATURE**

Units: 3.0 - 48-54 hours lecture. CSU. (Prerequisite: ENGL 101.0 or ENGL H101 with a grade of 'C' or better )

A survey of children's literature, emphasizing folktales, narrative fiction, poetry and some non-fiction works. Also includes the history and development of literature and illustration for children, the selection of materials for various age groups, and literature and the media.

### **ENGL 240/241 WORLD LITERATURE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. ENGL 240 (Prerequisite: ENGL 102.0 or ENGL H102 with a grade of 'C' or better)

Masterpieces in translation from earliest times through the Renaissance (240), and from the Neoclassical to modern times (241).

### **ENGL 245 SURVEY OF ENGLISH LITERATURE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 102.0 or ENGL H102 with a grade of 'C' or better)

A survey of major British writers from the Middle Ages through the Eighteenth Century, including an examination of language development, historic and cultural backgrounds, and literary trends; special consideration of Chaucer, Spenser, Marlowe, Shakespeare, Bacon, Donne, Milton, Dryden, and Pope.

### **ENGL 246 SURVEY OF BRITISH LITERATURE ROMANTIC PERIOD TO 20<sup>th</sup> CENTURY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 102.0 or ENGL H102 with a grade of 'C' or better)

A survey of major British writers from the Romantics and their contemporaries through the 20th century, including an examination of historic and cultural and literary trends. Special consideration of major authors such as Blake, Wordsworth, Byron, Browning, Wilde, Conrad, Yeats, Eliot, Woolf, Auden.

### **ENGL 247 SHAKESPEARE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 101.0 or ENGL H101 with a grade of 'C' or better)

An introduction to Shakespeare's work through a study of his principal plays and sonnets.



## ENGLISH AS A SECOND LANGUAGE (ESL)

English as a Second Language (ESL) is the study of English designed for non-native speakers of English. As California becomes culturally and linguistically more diverse, the need for language and cultural orientation grows. Moreover, non-native speakers of English will need to develop academic language skills necessary for success at the college level. It is the goal of the ESL program to meet that need.

### Career Opportunities

Although ESL is not recognized as a separate major, it is a necessary component for success in any field for the non-native student.

### Faculty

#### **Full Time**

Laird Eklund  
Maria Ruiz

## ENGLISH AS A SECOND LANGUAGE (ESL) COURSES

VVC offers a wide variety of noncredit ESL classes at lower levels, from low beginning to advanced level. Please consult the Class Schedule for a description of these classes, along with times and locations.

### **ESL 3 LOW BEGINNING READING AND WRITING**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory hours. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

Students at this level demonstrate little or no competence in communicating through writing and little or no control of vocabulary, grammar and sentence structure. Course is designed to teach students basic alphabet and phonics, and to read and write simple stories. Students will copy text and/or generate words or simple phrases; develop awareness of appropriate word choice or correct form; write simple sentences in thematic units.

### **ESL 5 BEGINNING LISTENING AND SPEAKING**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is designed for the non-native speaker of English who has no ability or very little competence in speaking and listening. Emphasis is on developing students' ability to listen and understand basic English. Nonverbal social customs are taught; nonverbal behavior and cross-cultural communication are taught implicitly through modeling, interaction and demonstration.

### **ESL 12A BASIC COMPUTER LITERACY**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This is a three part course in ESL Computer Literacy for non-native speakers of English. The focus of the course is to develop language skills related to computer usage. Students will learn computer uses for ESL courses and educational purposes.

### **ESL 12B BASIC COMPUTER LITERACY**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Recommended preparation: Completion of ESL 12A is strongly recommended. Pass/No Pass)

This course is designed for non-native speakers of English. The focus of the course is to expand and develop basic computer knowledge for ESL educational purposes.

### **ESL 13 HIGH BEGINNING READING AND VOCABULARY**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is designed for the non-native speakers of English with some competence in reading and vocabulary. The course focuses on reading abilities through the enhancement of vocabulary skills and cultural awareness. Emphasis is placed on developing a life-long ability to read for pleasure. American culture is introduced through newspapers, folk tales, short stories and cross-cultural readers.

### **ESL 23 PRE-INTERMEDIATE READING AND VOCABULARY**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is designed for non-native speakers of English. Focus is on development and practice of fundamental reading and vocabulary skills needed to academic and workplace settings. Reading skills include comprehension, understanding new vocabulary in context and scanning for specific information. Students read simplified texts on academic and vocational subjects.

### **ESL 25 PRE-INTERMEDIATE LISTENING AND SPEAKING**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass.)

Course is designed for non-native speakers of English. This course focuses on fundamental speaking and listening skills for ESL students who have a basic knowledge of common English words and phrases. Students learn to understand short spoken passages, including questions and warnings. Speaking skills include describing familiar situations and events, such as giving basic information on the telephone.

### **ESL 27A PRE-INTERMEDIATE WRITING AND GRAMMAR**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is designed for non-native speakers of English. Course focus is on fundamental writing and grammar skills for ESL students who have a basic knowledge of common English words, phrases, and structure. Students write at the sentence and paragraph level, learn to organize ideas, and edit for grammar, spelling and punctuation.

### **ESL 27B PRE-INTERMEDIATE WRITING AND GRAMMAR II**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Recommended preparation: ESL 12A, ESL 23A, ESL 27A or basic knowledge of keyboarding and grammar. Pass/No Pass)

This class is the second of a two-part series of pre-intermediate grammar and writing classes. This course is designed for non-native speakers of English who want to develop grammar and writing skills. The focus is on reviewing verb tenses and introducing modals, adjectives, count and non-count articles, adverbs and adjectives. Students will practice writing and editing simple paragraphs.

### **ESL 30A INTERMEDIATE PRONUNCIATION I**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Recommended preparation: Completion of ESL 12A is strongly recommended. Pass/No Pass)

This course is designed for non-native speakers of English who require further practice and instruction in pronunciation. Class will help improve communication skills and achieving clear speech for success in everyday situations, workplace and school settings. This class will focus on introducing sounds of vowels and consonants and their combinations. It will introduce the basic features of English stress, rhythm and intonation.

### **ESL 30B INTERMEDIATE PRONUNCIATION II**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is designed for non-native speakers of English at the high intermediate and/or advanced level of ESL. Designed for students whose speech is continuing to cause communication difficulties at work, school, or in social situations. Students practice listening, rhythm, intonation and pronunciation.

### **ESL 33 READING AND VOCABULARY**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. It is recommendation that students should already have basic skills in decoding information and understanding at a literal level. They should be able to read and understand short, authentic texts such as letters and instructions. Pass/No Pass)

A reading course for low intermediate ESL students emphasizing main ideas, outlining, and vocabulary in context.

### **ESL 33B HIGH INTERMEDIATE READING AND VOCABULARY**

Units: 4.0 - 64-72 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Recommended preparation: ESL 33. Pass/No Pass)

This course is designed for non-native speakers of English who have intermediate proficiency in reading and writing English. Students will learn a variety of reading and vocabulary developmental strategies for college success. Students will learn to access a variety of technology based reading resources to further develop their reading skills.

### **ESL 34 HIGH INTERMEDIATE ENGLISH SKILLS AT THE WORKPLACE**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is designed for non-native speakers of English who wish to strengthen business communication skills. Course focus is on cultural differences, social etiquette, business idioms, and some business writing. Emphasis on developing fluency and comprehension.

### **ESL 35A LOW INTERMEDIATE LISTENING AND SPEAKING**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate degree. (No prerequisite. Pass/No Pass)

This course is designed for non-native speakers of English. Course focus is on casual and formal dialogues in commonplace situations, everyday language functions and conversation skills. Students learn common courtesy expressions, clarification strategies, idiomatic expressions and grammatical patterns in English.

### **ESL 35B HIGH INTERMEDIATE LISTENING AND SPEAKING**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate degree. (No Prerequisite. Recommended preparation: ESL 35A. Pass/No Pass)

This course focuses on speaking and listening skills for students at high intermediate level of English. Students practice a variety of conversational and listening strategies and engage in discussions. Through role play, and simulation exercises, students learn to express opinions and reach agreement.

### **ESL 37 INTERMEDIATE GRAMMAR**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

Students at this level learn and apply rules of English grammar and structure for use in oral and written communication. This course provides practice in areas such as common verb tenses, question forms, and expressions of ability, permission and advice.

### **ESL 37A LOW INTERMEDIATE WRITING AND GRAMMAR**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course helps students at low intermediate level develop writing and grammar skills appropriate for educational and personal success. Students write short compositions on familiar topics. They learn to apply principles of grammar as they write.

### **ESL 37B HIGH INTERMEDIATE WRITING AND GRAMMAR**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course helps students at high intermediate level develop writing and grammar skills appropriate for educational and personal success. Students write short compositions on a variety of topics. They learn to apply principles of grammar as they write.

### **ESL 38 HIGH INTERMEDIATE GRAMMAR**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

Students at high intermediate level learn and apply rules of English grammar and structure for use in oral and written communication. This course provides practice in areas such as description using adjectives and adverbs, use of gerund and infinitive forms of verbs, certain models, and nouns and articles.

### **ESL 40A LOW ADVANCED PRONUNCIATION**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Recommended preparation: ESL 30B highly recommended. Some internet skills advised. Grade Option)

This course is the first in a series of two classes for non-native speakers of English wanting to improve their pronunciation skills in English. Students will learn to effectively improve pronunciation for clear and effective communication in social, academic, or job settings. Through structured activities, direct instruction, and lab work, students will be able to improve their skills in those areas that comprise pronunciation, rhythm patterns, and stress.

### **ESL 43 LOW ADVANCED READING AND VOCABULARY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Pass/No Pass)

This is the first of two courses designed for non-native speakers of English who are approaching advanced level of proficiency in reading English. Emphasis is on further developing reading and vocabulary skills. Students are introduced to a variety of reading genres, word structure, vocabulary, and reading strategies. This course will not apply to the Associate Degree.

### **ESL 43B HIGH ADVANCED READING AND VOCABULARY**

Units: 4.0 - 64-72 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

This course is designed for non-native speakers of English. Skills include developing essays from longer reading passages. Students will respond to reading passages, reinforce vocabulary building and comprehension.

### **ESL 45 PUBLIC SPEAKING FOR ESL**

Units: 3.0 - 64-72 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

This class is for non-native speakers of English at the advanced level of listening and speaking who wish to develop practical public speaking skills. The class is designed to help build confidence in speaking. Students will learn to use visual and audio aids to enhance presentation skills and to listen critically and objectively. Students will recite, develop, present, and evaluate speeches for a variety of situations.

### **ESL 45A CROSS CULTURAL COMMUNICATION SKILLS**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

This course is designed for non-native speakers of English who wish to understand cultural differences of North American society. Course focus is on broadening intercultural understanding for students living and working in the USA. Topics focus on different aspects of mainstream North American cultures encountered in a work or social setting.

### **ESL 47 ADVANCED GRAMMAR**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

Students at advanced level learn and apply rules of English grammar and structure for use in oral and written communication. This course provides review practice and expanded study of verb tenses, gerunds and infinitives, modals, and tag questions.

### **ESL 48 HIGH ADVANCED GRAMMAR**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

Students at high advanced level learn and apply rules of English grammar and structure for use in oral and written communication. This course provides review practice and expanded study of phrasal verbs and introduces passive forms, conditional statements, adjective clauses, and indirect speech.



## **ENVIRONMENTAL STUDIES**

A number of disciplines on campus offer classes and vocational certificates focusing on different aspects of Environmental Studies. See listings under the following departments: Agriculture and Natural Resources, Biology, Chemistry, Construction Technology, Computer Integrated Design and Graphics, Electronics, Fire Technology, Geography, and Political Science.

Promoting an understanding of the interaction of human beings with their environment is the focus of Environmental Studies. Career opportunities cover a wide range of positions in public agencies, business, industry and nonprofit organizations which need individuals who can provide up-to-date environmental information and assist in compliance with environmental regulations. This transfer major combines courses from the biological sciences, physical sciences, and social sciences.

The college now boasts a **Green Technology Educational Pathway Initiative** (GTPI) to help prepare students for success in this ever-evolving world. The GTPI is a collaborative among education, business, and the community that has spent several years developing programs promoting sustainability practices and training students in the skills needed to fill the emerging "green jobs."

### **Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Environmental Studies major*
- **University of California, Riverside**  
*Environmental Sciences major*

## **FINE ARTS**

### **Degrees and Certificates Awarded**

Associate in Arts, Fine Arts

### **Associate Degree**

To earn an Associate in Arts degree with a major in Fine Arts, complete a minimum of 18 units from any of the following courses:

- **ANTHROPOLOGY**  
ANTH 151
- **ART**  
ART 101, 102, 103, 104, 105, 106, 107, 108, 109, 112, 113, 115, 120, 121, 122, 123, 124, 125, 126, 128, 129, 131, 132, 133, 141, 142, 150, 151

### ■ MUSIC

MUSC 100, 101, 102, 103, 104, 105, 110, 111, 116, 117, 118, 120A-J, 122, 123, 124, 125, 126, 128, 129, 130, 131, 132, 134, 135, 136, 139, 140, 141, 143, 144, 145, 147, 202, 203, 204, 205, 210, 211

### ■ PHYSICAL EDUCATION/DANCE

PE 103, 128; PEDA 160, 161, 162, 163, 164, 165, 166, 167, 169, 170, 171, 174, 175, 176, 177, 266, 267, 270, 271, 274, 275, 276

### ■ PHOTOGRAPHY

PHOT 52, 53, 54, 100, 101, 103, 105, 129

### ■ THEATRE ARTS

ENGL 116\*, TA 101, 102, 104, 106, 107, 109, 110, 111, 113, 115, 116\*, 117, 120, 128, 129, 160, 161, 166, 167, 170, 171, 174, 175, 266, 267, 270, 271, 274, 275

\*Engl 116 and TA 116 are the same class.

### Transfer

To pursue a bachelor's degree in this field, there are many schools that have programs that might interest you. For the most up-to-date information on these programs, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.



## FIRE TECHNOLOGY

Fire protection is a highly specialized professional field requiring extensive knowledge and use of scientific principles. Successful application of the fundamental principles of fire protection, including suppression and extinguishment of fires, rescue, emergency medical services, prevention techniques and practices, preplanning for fire protection, and disaster control, requires technical knowledge and the ability to work within an organized system at the fire ground or other emergency scene. These actions require trained, professional people to accomplish the goals and objectives of today's public and/or private organizations in meeting their commitment to the public and employees they serve. Fire Technology provides the student the opportunity to prepare for a rewarding career in the public fire service or in private industry.

For the most current information about VVC's Fire Technology programs, application deadlines, costs, and other requirements, please visit [http://www.vvc.edu/academic/fire\\_technology/](http://www.vvc.edu/academic/fire_technology/).

### **Fire Technology**

This program provides vocational and technical in-service training for interested students. Each student who completes a program of courses that meets the specified requirements is entitled to a Certificate of Completion in that field. Certificates are awarded as evidence that well defined levels of proficiency have been attained and they are recognized as such by employers.

In order to be awarded the certificate, the student must have completed the prescribed program with at least a 2.0 grade point average in the prescribed course work. The number of courses prescribed for each certificate varies according to the area of training.

### **Career Opportunities**

Apparatus Operator  
Disaster Preparedness  
Fire Administrative Analyst  
Fire Chief  
Fire Division Chief  
Fire Fighter I  
Fire Officer I  
Fire Prevention Specialist  
Fire Protection Engineer  
Industrial Fire Safety Specialist

### **Faculty**

**Full-time**  
Tom Turner

### **Degrees and Certificates Awarded**

Associate in Science, Fire Technology  
Fire Fighter Certificate  
Fire Prevention Officer Certificate  
Fire Company Officer Certificate



**Recommended preparation for the Fire Academy**

It is highly recommended that students complete the following courses prior to applying for the Fire Fighter Academy:

FIRE 11B*	Confined Space Awareness	0.5 units
FIRE 66	Introduction to Incident Command	1.0 units
FIRE 69	Building Construction for Fire Protection	3.0 units
FIRE 82A	Hazardous Materials First Responder	1.5 units
ALDH 70	Emergency Medical Responder	2.5 units
ALDH 71	Emergency Medical Technician	9.0 units

\*Courses numbered below 50 do not apply to the Associate Degree

**Certificate Programs**

**FIRE FIGHTER CERTIFICATE**

Units Required: 32.0

Awarded to the student who successfully completes the following course of study to meet the minimum qualifications and competencies as required by National Fire Protection Association and California State Fire Marshal's Fire Fighter I certification program.

*All of the following must be completed:*

FIRE 100	Fire Protection Organization	3.0
FIRE 101	Fundamentals of Fire Service Operations	3.0
FIRE 102	Fire Prevention Technology	3.0
FIRE 103	Fire Protection Equipment and Systems	3.0
FIRE 104	Fire Behavior and Combustion	3.0
FIRE 82A	Hazardous Materials First Responder	1.5
FIRE 81	Emergency Medical Technician	9.0
OR ALDH 71	Emergency Medical Technician I (Ambulance)	
FIRE 95	Basic Fire Academy	10.0

**FIRE COMPANY OFFICER CERTIFICATE**

Units Required: 64.5 units minimum

Awarded to the individual who has successfully completed all requirements for certification by the State Fire Marshal's Office for Fire Officer. Meets entry requirements for firefighters to the middle and upper level management positions within the agency.

*Group I – All of the following must be completed:*

FIRE 100	Fire Protection Organization	3.0
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FIRE 101	Fundamentals of Fire Service Operations	3.0
FIRE 102	Fire Prevention Technology	3.0
FIRE 103	Fire Protection Equipment and Systems	3.0
FIRE 104	Fire Behavior and Combustion	3.0
FIRE 105	Fire Apparatus and Equipment	3.0
FIRE 106	Fire Company Organization and Management	3.0
FIRE 108	Fire Hydraulics	3.0
FIRE 70	Fire Instructor Training 1A	2.0
FIRE 71	Fire Instructor Training 1B	2.0
FIRE 72	Fire Command 1A	2.0
FIRE 73	Fire Command 1B	2.0
FIRE 76	Fire Management 1	2.0
FIRE 82A	Hazardous Materials First Responder	1.5
FIRE 81	Emergency Medical Technician	9.0
OR ALDH 71	Emergency Medical Technician I (Ambulance)	
FIRE 95	Basic Fire Academy	10.0
CIS 101	Computer Literacy	4.0

*Group II – Three of the following courses must be completed:*

FIRE 107	Fire Investigation	3.0
FIRE 109	Wildland Fire Control	3.0
FIRE 61	Rescue Practices	3.0
FIRE 74	Fire Prevention 1A	2.0
FIRE 75	Fire Prevention 1B	2.0
FIRE 77	Investigation 1A	2.0

**FIRE PREVENTION OFFICER CERTIFICATE**

Units Required: 30.0

Describes an individual who has successfully completed the competencies as required for a certified fire prevention officer by the California State Fire Marshal's Office. Meets entry requirements for fire prevention specialist and/or fire prevention officer.

*All of the following must be completed:*

FIRE 100	Fire Protection Organization	3.0
FIRE 101	Fundamentals of Fire Service Operations	3.0
FIRE 102	Fire Prevention Technology	3.0
FIRE 103	Fire Protection Equipment and Systems	3.0
FIRE 104	Fire Behavior and Combustion	3.0
FIRE 107	Fire Investigation	3.0
OR		
FIRE 77 & 79	Investigation 1A and 1B	4.0
FIRE 70	Fire Instructor Training 1A	2.0
FIRE 71	Fire Instructor Training 1B	2.0
FIRE 74,75, 78	Fire Prevention 1A, 1B, 1C	6.0
FIRE 76	Fire Management 1	2.0

**Associate Degree**

To earn an Associate in Science degree with a major in Fire Technology complete 18 units from any of the certificate requirements above or from any Fire Technology courses and meet all Victor Valley College graduation requirements. FIRE 138 (Cooperative Education) may be used as Elective credit, but may not be used to fulfill major requirements.

**Transfer**

Not usually a transfer major. Some Fire Technology courses do transfer as Electives or fulfill subject credit requirements.

As an exception, California State University, Los Angeles offers a B.S. degree in Fire Protection Administration and Technology which requires a minimum of 15 major units to be completed in Fire Technology at a community college. Visit [www.assist.org](http://www.assist.org) for community college courses which will transfer as requirements toward the bachelor's degree. Students planning to pursue this bachelor's degree should also complete the CSU General Education-Breadth Requirements before transfer if possible.

Business Administration is also a highly recommended bachelor's degree major for people in this field who are seeking advancement. See Business Administration for transfer requirements.

**FIRE TECHNOLOGY COURSES****FIRE 1 FIRE COMMAND 1C – I-ZONE FIRE FIGHTING FOR COMPANY OFFICERS**

Units: 2.0 - 32 hours lecture and 6 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: FIRE 72, Fire Command 1A and FIRE 66, I-200 Basic ICS. State mandated.)

The course is designed around the responsibilities of the Company officer at a wildland/urban interface incident. It will bring the structural Company Officer out of the city and into the urban/interface incident. In other words, from his or her comfort zone into an area that could very well be quite unfamiliar. This course is required for Fire Officer Certification by the Office of the State Fire Marshal.

**FIRE 3A CERTIFIED VOLUNTEER FIRE FIGHTER**

Units: 3.0 - 32-36 hours lecture and 64-72 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: Must pass sport participation examination prior to entrance into class. State mandated. Grade Option.)

The course, the first of two courses, is designed to prepare the student with information and skill development necessary to perform the tasks of a certified volunteer fire fighter within California. Provides a foundation of information and skill development

necessary to enter college level courses in fire technology and/or a career in the fire service. Students must complete FIRE 3A and FIRE 3B to qualify for state certificate.

**FIRE 3B CERTIFIED VOLUNTEER FIRE FIGHTER**

Units: 3.0 - 32-36 hours lecture and 64-72 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: Must pass sport participation examination prior to entrance into class. State mandated. Grade Option.)

The second of two courses, is designed to prepare the student with information and skill development necessary to perform the tasks of a certified volunteer fire fighter within California. Provides a foundation of information and skill development necessary to enter college level courses in fire technology and/or a career in the fire service. Students must complete FIRE 3A and FIRE 3B to qualify for state certificate.

**FIRE 4A FIRE FIGHTER II ACADEMY**

Units: 1.5 - 16-18 hours lecture and 32-36 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: FFI status, or completion of FFI Academy [FIRE 95], or recommendation of training officer from a fire protection organization. Pass/No Pass.)

This is a series of lectures and manipulative drills designed to enhance and improve the fire fighter student's skills in fire behavior, forcible entry, vehicle firefighting, flammable gases and liquids firefighting techniques, handling massive casualty incidents and performance testing techniques. Designed for today's paid call and career fire fighter seeking full-time employment and/or advancement within a public or private fire protection organization.

**FIRE 4B RESPONSE TO TERRORISM**

Units: 1.0 – 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course will introduce the fire fighter student to the basic concepts for first awareness at the scene of a potential or actual terrorist incident and discusses safety and survival tactics.

**FIRE 5B FIRE COMMAND 2B-MANAGEMENT OF MAJOR HAZARDOUS MATERIALS**

Units: 2.0 - 32-36 hours lecture. This course will not apply to the Associate Degree. (No prerequisite)

This course prepares the firefighting student with the information necessary to successfully manage a major hazardous materials incident within their jurisdiction. Areas of discussion include: information and data bases

for hazardous materials; organizations, agencies and institutions involved with hazardous materials response and research; planning for your community's hazardous materials problems; legislation, litigation and liabilities of hazardous materials responses.

### **FIRE 5C FIRE COMMAND 2C-HIGH RISE FIRE TACTICS**

Units: 2.0 - 32-36 hours lecture. This course will not apply to the Associate Degree. (No prerequisite)

This course prepares the fire fighter student to manage a fire in small and large high rise buildings. Topics of discussion include: pre-fire planning; building inventory; problem identification; ventilation methods; water supply; elevators; life safety; firefighting strategy and tactics; application of Incident Command System (ICS); and specific responsibilities of fire ground personnel. Case studies and simulation are features. Applicable to large and small fire departments.

### **FIRE 5D INCIDENT COMMAND SYSTEM-SCENE MANAGER**

Units: 1.5 - 24-27 hours lecture. This course will not apply to the Associate Degree. (No prerequisite)

This course provides important information needed for operating as a scene manager (incident commander) within the Incident Command System (ICS). Subjects include: incident briefing, incident planning, incident management, unified command, and incident demobilization.

### **FIRE 5E STRIKE TEAM LEADERS, DOZERS (S-335)**

Units: 1.0 - 16-18 hours lecture. This course will not apply to the Associate Degree. (Prerequisites: ICS-100, 200, 300/State mandated. Pass/No Pass)

This course prepares the fire fighter student to work as a strike team leader in charge of a task force or strike team of dozers for wild land fire control within the incident command system. This fire fighter course discusses duties, responsibilities, procedures and materials involved in the operation of the dozer strike team and the function of the strike team leader. National Wild Land Coordinating Group certified. Certification fee \$5. This course will not apply to the Associate degree.

### **FIRE 5F INMATE FIRE CREW SUPERVISOR**

Units: 3.0 - 32-36 hours lecture and 32-36 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: FIRE 66, FIRE 86, ICS-100, 200, 300/State Mandated. Pass/No Pass)

This course prepares the fire fighter student with the skills and information necessary to work within the Incident Command System (ICS) as an inmate fire crew supervisor. Responsibilities, duties and materials

required to operate and manage an inmate fire crew are presented. Wild land fire tactics and strategies for hand crews and hand crew fire safety are feature. National Wild Land Coordinating Group certified. \$5.00 certification fee.

### **FIRE 5G S-356 SUPPLY UNIT LEADER**

Units: 1.0 - 16-18 hours lecture. This course will not apply to the Associate Degree. (Prerequisites: I- 300, S-301. State Mandated. Pass/No Pass)

This course provides the fire fighter student with information to perform the tasks of the Supply Unit Leader within the Incident Command system (ICS). CDF certified. Northwest Coordinating Group approved.

### **FIRE 5H FOOD UNIT LEADER**

Units: 1.5 - 16-18 hours lecture and 12 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: FIRE 66, FIRE 86, ICS-100, 200, 300/State mandated. Pass/No Pass)

This course prepares the fire fighter student with the skills and information necessary to work within the Incident Command System (ICS) as a food unit leader. Responsibilities, duties and materials required to operate and manage a food unit are presented. National Wild Land Coordinating Group certified.

### **FIRE 5I GROUND SUPPORT UNIT LEADER**

Units: 2.0 - 32-36 hours lecture. This course will not apply to the Associate degree. (Prerequisite: FIRE 86/State mandated. Pass/No Pass)

This course prepares the fire fighter student to work as a ground unit leader within the Incident Command System (ICS). Responsibilities of the ground unit leader, procedures and materials involved with the operation and function of the ground support unit are discussed. National Wild Land Coordinating Group certified. Certification fee is \$5.

### **FIRE 5.1J VOLUNTEER FIRE OFFICER'S ACADEMY**

Units: 2.0 - 32-36 hours lecture. This course will not apply to the Associate degree. (No prerequisite)

This course is designed to provide the information and skills necessary for the fire fighter/and or driver operator who desire to promote to the rank of company officer; for company officers who desire to remain current with innovative management, leadership and human relations techniques; and for training officers who are responsible for teaching and developing officers and future officer candidates. This course is designed for the fire fighter student with essential fire fighter skills.

**FIRE 6A BASIC FIRE ENGINE OPERATION ACADEMY, CDF**

Units: 3.5 - 48-54 hours lecture and 64-72 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: Successful completion of Basic Forest Firefighter course, valid class B (commercial or firefighter) California Driver's license with Tank and Air Brake Endorsements; successful completion of Hazardous Materials First Responder, Operational. State mandated. Pass/No Pass.)

This course provides the student with the information and skills to safely drive and operate fire apparatus and fire pumps and provide initial attack incident control capabilities according to California Department of Forestry standards and policies.

**FIRE 6B FIRE ATTACK I: SET STANDARD FOR EXCELLENCE ON THE FIRE GROUND**

Units: 1.0 - 16-18 hours lecture. (Prerequisites: Employment with a recognized fire protection agency in a position of company officer or acting company officer, or enrollment within the fire officer certification program accredited by California Fire Services Training and Education System (CFSTES) or National Fire Protection Association (NFPA) Standard 1021, Fire Officer Professional Standards. Grade Option)

Fire Attack I is designed to provide the fire fighter with the latest information, tactics and strategies for combating structural fire incidents. Focus is on the decisions and responsibilities the first arriving company officer must consider to successfully mitigate the incident. This class will not apply to the Associate degree.

**FIRE 6C LEADERSHIP FUNDAMENTALS**

Units: 2.0 - 32-36 hours lecture. (No prerequisite. Pass/No Pass) This course may be taken again only with a grade of "D" or lower.

This course is designed to prepare the fire fighter student within the California Department of Forestry to take a new position of company officer by providing skills in supervision and management. Topics include motivation, communication, discipline, leadership, time management and team building. This course will not apply to the Associate degree.

**FIRE 7 FIRST RESPONDER – MEDICAL**

Units: 2.0 - 32-36 hours lecture and 10 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course provides manipulative and technical instruction in emergency care procedures, including examining the victim, observing the surroundings, maintaining an airway, controlling bleeding, treating shock, childbirth emergencies, performing manual lifts

and carries, and interfacing with emergency medical technicians and paramedics. This course meets present public safety emergency care requirements for fire service personnel.

**FIRE 7A FIRST RESPONDER MEDICAL, REFRESHER**

Units: 1.0 - 16-18 hours lecture and 8-9 hours laboratory. This course will not apply to the Associate Degree. (No Prerequisite. Pass/No Pass) This course may be taken four times.

A 24-hour refresher course approved by the State Board of Fire Services and California State Fire Training for Recertification of first responders to medical emergencies.

**FIRE 8B EMERGENCY MEDICAL TECHNICIAN, REFRESHER**

Units: 0.5 - 8-9 hours lecture and 16-18 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: Must possess valid EMT I, State Fire Marshal's certificate-State regulation. Pass/No Pass) This course may be taken four times.

A 24-hour refresher course for fire service students who require recertification for Emergency Medical Technician I, State Fire Marshal or Fire Service certificates who do not operate ambulances or transport patients. Course approved by the State Board of Fire Services and State Fire Marshal's office.

**FIRE 8C EMT-ID, DEFIBRILLATION**

Units: 0.5 - 8-9 hours lecture. This course will not apply to the Associate Degree. (Prerequisites: possess a current Basic Care Life Support (BCLS) card, possess certification as an EMT 1, and be currently employed with an approved EMT I D provider. State mandated. Pass/No Pass)

This course will provide the Emergency Medical Technician (EMT 1) training in the skill of defibrillation (D). Course content is based on California State Department of Health requirements, as delineated in title 22 of the California Administrative Code, Division 9, Chapter 2, Section 10064.

**FIRE 9 FIRE CONTROL III, STRUCTURAL FIRE FIGHTING, INSTRUCTOR**

Units: 2.0 - 32-36 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This 32-hour course prepares the fire fighter student to manage and conduct a state certified Fire Control III training exercise. Designed for fire department training officers and training staff, this course assumes a basic

knowledge of firefighting skills and organizational concepts.

### **FIRE 9A FIRE CONTROL IV, OIL AND GAS FIRE FIGHTING TECHNIQUES**

Units: 0.5 - 8-9 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course provides the fire fighter student with live fire situations to gain skills and experience in combating fires involving liquefied petroleum gas and flammable liquids. Subjects include flammable liquid fire behavior, safety on the fire ground, extinguishing agents, flammable liquid/gas transportation vehicles, water-flow requirements and actual fire extinguishing exercises. A basic knowledge of firefighting skills and knowledge plus access to appropriate safety equipment and clothing is presumed.

### **FIRE 10 FIRE FIGHTER SKILLS MAINTENANCE**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: FIRE 100 and FIRE 90 or FIRE 95 or equivalent. Employment as career fire fighter or paid call fire fighter recommended)

A series of lectures and manipulative drills designed to provide maintenance of skills learned, including updates in technology relating to fire department organization, hoses, ladders, tools and equipment, salvage, fire chemistry, extinguishers and agents, fire control, prevention, arson, crowd and traffic control, mutual aid, communications, fire safety and emergency rescue techniques.

### **FIRE 10A SKILLS MAINTENANCE FOR PAID CALL FIRE FIGHTER**

Units: 1.5 - 16-18 hours lecture and 32-36 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite)

A series of lectures and manipulative drills designed to provide maintenance of skills learned, including updates in technology relating to fire department organization, hoses, ladders, tools and equipment, salvage, fire chemistry, extinguishers and agents, fire control, prevention, arson, crowd and traffic control, mutual aid, communications, fire safety and emergency rescue techniques.

### **FIRE 10B WILDLAND FIRE FIGHTER'S SKILLS MAINTENANCE**

Units: 1.5 - 16-18 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: Employment as a wildland fire fighter or fire fighter serving a community with wildland

or interface fire conditions. State mandated. Pass/No Pass.) This course may be taken four times.

This course provides the fire fighter student with new information and skill development to maintain efficiency and effectiveness as a wildland fire fighter. New protocols, procedures and equipment are presented and student demonstrates proficiency in using tools, tactics and strategies for fire control.

### **FIRE 10C COMPANY OFFICER'S SKILLS MAINTENANCE**

Units: 1.5 - 16-18 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: Employment as a wildland fire fighter or fire fighter serving a community with wildland or interface fire conditions. State mandated. Pass/No Pass.) This course may be taken four times.

This course provides the fire fighter company officer student with new information and skill development to maintain efficiency and effectiveness as a company officer and fire fighter. New policies, procedures and equipment are presented and student demonstrates proficiency in using tools, tactics and strategies for managing personnel, budgets and legal responsibilities in today's fire service.

### **FIRE 10D HAND CREW FIRE FIGHTER SKILLS MAINTENANCE**

Units: 1.5 - 16-18 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: Employment as a hand crew fire fighter with a modern fire service agency. State mandated. Pass/No Pass.) This course may be taken four times.

This course provides the fire fighter student with new information and skill development to maintain efficiency and effectiveness as a wild land hand crew fire fighter. New policies, procedures and equipment are presented and student demonstrates proficiency in using tools, tactics and strategies for constructing and maintaining a fire line and other related fire control tactics and operations. CDF certified.

### **FIRE 11 LOW ANGLE ROPE RESCUE OPERATIONAL**

Units: 1.0 - 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass) This course may be taken four times.

This course is designed to equip the student with the information, techniques and methods for utilizing rope, webbing, hardware friction devices, and litters in low angle rescue situations. Topics include rope and related equipment, anchor systems, safety lines, stretcher lashing and rigging, mechanical advantage, single line

and two line rescue systems. This course is designed for the fire fighter student with essential firefighting skills.

#### **FIRE 11A RESCUE SYSTEMS I**

Units: 1.5 - 24-27 hours lecture and 16-18 hours laboratory. This course will not apply to the Associate degree. (No prerequisite. Pass/No Pass) This course may be taken again only with a grade of "D" or lower.

The 40-hour State Fire Rescue Systems I course is designed to provide the student with the ability to apply basic search and rescue skills, approach rescue situations safely and understand the organizational concerns at a structural collapse incident. Upon completion of the course, the student will receive a California State Fire Marshals Certificate, which is the basic requirement for other rescue classes.

#### **FIRE 11B CONFINED SPACE RESCUE AWARENESS**

Units: 0.5 - 8-9 hours lecture. This course will not apply to the Associate degree. (No prerequisite. Pass/No Pass) This course may be taken again only with a grade of "D" or lower.

Designed for all fire service personnel. This course provides instruction in identifying a permit and non-permit required confined space, the hazards associated with confined spaces, target industries and hazards, state regulations, communications, and equipment requirements. This course does not qualify participants to make permit required entries. OSFM-SFT certification. Material and FSTEP Certification Fee.

#### **FIRE 11D CONFINED SPACE RESCUE OPERATIONAL**

Units: 3.0 - 40-45 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: FIRE 11 and FIRE 11B. Pass/No Pass.) This course may be taken two times.

This course is designed for personnel who in the discharge of rescue duties find themselves working in "immediately dangerous to life and health environments". This is the 40 hour California State Fire Marshal course required for USAR Team members.

#### **FIRE 15 S-244, FIELD OBSERVER/DISPLAY PROCESSOR**

Units: 1.5 - 24-27 hours lecture and 16-18 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: FIRE 60G. State mandated. Pass/No Pass)

This course provides the fire fighter student with the information to perform the duties, responsibilities, procedures and to utilize the appropriate materials when acting as the field observer/display processor within the

Incident Command System (ICS). North West Coordinating Group certified.

#### **FIRE 16 TECHNICAL SPECIALIST, CREW**

Units: 1.0 - 16-18 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: FIRE 66.1. State mandated. Pass/No Pass) This course may be taken four times.

This course provides the fire fighter student with the information to perform the position of Technical Specialist for hand crews when operating within the Incident Command System (ICS). California Department of Forestry certified.

#### **FIRE 17 BASIC FIRE CREW, CAPTAIN**

Units: 2.0 - 32-36 hours lecture. This course will not apply to the Associate Degree. (Prerequisite: Appointment to the fire crew captain position. State mandated. Pass/No Pass)

This course is designed for the recently appointed fire crew captain assigned to camp programs. The course will focus on group dynamics, supervision techniques, recognizing gang symbology and signals, Department of Corrections regulations, fire crew configurations and tactics. CDF certified.

#### **FIRE 18 CLASS A FOAM OPERATIONS**

Units: 1.0 - 16-18 hours lecture. This course will not apply to the Associate Degree. (Prerequisites: FIRE 80. State mandated. Pass/No Pass)

This course is an introduction to Class A firefighting foams used on wild land fires. Classroom principles and field application techniques are featured. CDF certified. 16-18 hours lecture. This course will not apply to the Associate Degree. (Prerequisites: FIRE 80. State mandated. Pass/No Pass)

#### **FIRE 20 I-333 STRIKE TEAM LEADER, CREW**

Units: 1.0 -16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite.)

This course will provide the fire fighter student with the information necessary to perform as a strike team leader in charge of a hand crew at wild land fire suppression operations.

#### **FIRE 21 CALIFORNIA DEPARTMENT OF FORESTRY FIRING OFFICER 2-234**

Units: 1.5 - 24-27 hours lecture and 16-18 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite.)

This course is designed to train fire fighter supervisors who have a need to know how to set a fire or backfire to

accomplish fire containment and control in wildland fire suppression.

### **FIRE 21A FIRING METHODS AND PROCEDURES**

Units: 1.5 - 24-27 hours lecture. This course will not apply to the Associate Degree. (Prerequisites: FIRE 66, FIRE 80A. State mandated. Grade Option)

This course provides the fire fighter student with information about firing techniques and related firing devices used in wildland fire suppression. Includes basic safety instructions and procedures to follow when immediate and unplanned back firing or burning out of an area is deemed necessary for wild land fire control. CDF certified. North West Coordinating Group approved.

### **FIRE 26 S-205, INTERFACE OPERATIONS**

Units: 1.0 - 12 hours lecture and 12 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is designed to prepare the fire fighter student with the skills and techniques to fill the training needs for initial attack commanders and company officers confronting wildland fires that threaten life, property, and improvements within the interface areas of southern California. Topics include: size-up, initial strategy and action plan, structure triage, action plan assessment, public relations and safety.

### **FIRE 27 S-403, INFORMATION OFFICER**

Units: 2.0 - 32-36 hours lecture. This course will not apply to the Associate Degree. (Prerequisite: FIRE 66 and FIRE 86. State mandated. Pass/No Pass)

This course is designed to prepare the fire fighter student with the skills and techniques to fill the Incident Command System (ICS) position of Information Officer. Topics include duties and responsibilities of the Information Officer, working with the media, working with the public and other agencies.

### **FIRE 28 I-342, DOCUMENT UNIT LEADERS**

Units: 0.5 - 8-9 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is designed to provide skills that enable the fire fighter student to perform the position of Document Unit Leader within the Incident Command System (ICS). Procedures of the Document Unit Leader, responsibilities and materials required are presented.

### **FIRE 29 S-430, OPERATIONS SECTION CHIEF**

Units: 2.0 - 32-36 hours lecture. This course will not apply to the Associate Degree. (Prerequisite: I-300,

S290, Certification as Strike Team Leader or Division Supervisor. State mandated. Pass/No Pass).

This course is designed to prepare the fire fighter student with the skills and techniques to fill the Incident Command System (ICS) position of Operations Section Chief. Topics discussed include: information gathering, interaction with the command staff and general staff, incident action plan development, operation period briefing, daily schedule, and demobilization.

### **FIRE 30 INSTRUCTION TECHNIQUES FOR COMPANY OFFICERS**

Units: 1.0 - 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite.)

A National Fire Academy course for fire fighter students who want to improve their skills in training fire fighters and students of fire safety including the public. Applies toward National Fire Protection Association Standard 1041, Professional Qualifications of Fire Service Instructors.

### **FIRE 30A NATIONAL FIRE ACADEMY PUBLIC FIRE EDUCATION PLANNING**

Units: 1.0 - 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite.)

This National Fire Academy course is designed to provide the fire fighter student with the information and concepts to provide a successful public fire safety education program within their community.

### **FIRE 33 FIRE LINE EMERGENCY MEDICAL TECHNICIAN (EMT) ACADEMY**

Units: 1.0 - 12 hours lecture and 12 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: Current EMT certification and employment in public or private fire service organization. State mandated. Pass/No Pass)

This course is designed to prepare the fire fighter EMT to safely operate at a major wildland fire incident at the fire line location. Topics discussed include duties and responsibilities of the fire line EMT, equipment needs, helicopter safety, incident command system organization, and review of treatment for common fire line injuries and use of makeshift aids.

### **FIRE 40 FIRE FIGHTER ENTRANCE EXAMINATION TECHNIQUES**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

This course is designed to prepare the student to take and successfully pass the entrance level fire fighter examination process. Topics discussed include: seeking

employment opportunities, the application process, the various examinations given to applicants, oral interviews, and other aspects of the examination process.

**FIRE 40A FIRE FIGHTER PHYSICAL AGILITY ENTRANCE EXAMINATION TECHNIQUES**

Units: 1.0 - 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course is designed to prepare the student to take and successfully pass the entrance level fire fighter physical agility examination through physical conditioning and specificity training. Emphasis on physical conditioning and exercise.

**FIRE 40F BUILDING CONSTRUCTION FOR FIRE SUPPRESSION FORCES/WOOD/ORDINARY**

Units: 1.0 - 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

This course provides the fire fighter student with the principles of wood and ordinary construction as they apply to the fire service. The primary emphasis is on improving the fire fighters ability to ensure fire safety on the fire ground by recognizing common causes and indicators of building failure, collapse and other hazards related to building construction. Designed to improve the operational effectiveness of the fire officer and fire fighter by being able to predict the overall reaction of a building to fire conditions.

**FIRE 50 FIRE SERVICE SUPERVISION-INCREASING PERSONAL EFFECTIVENESS**

Units: 1.0 - 16-18 hours lecture. (No Prerequisite. Pass/No Pass)

This National Fire Academy course is designed to increase the fire fighter student's effectiveness as a manager and a leader by presenting current research on management, leadership, stress, and time management and explaining how to adapt this information to their own specific management context. Accredited by State Fire Marshal's Office.

**FIRE 51 FIRE SERVICE SUPERVISION-INCREASING TEAM EFFECTIVENESS**

Units: 1.0 - 16-18 hours lecture. (No Prerequisite. Pass/No Pass)

This National Fire Academy approved course is designed to increase the student's effectiveness as team leaders and members of the fire service by demonstrating how communication, motivation, counseling, and the principles of conflict resolution and group dynamics can be used to promote efficient group

functioning and members satisfaction. Accredited by State Fire Marshal's Office.

**FIRE 52 COMMANDING THE INITIAL RESPONSE**

Units: 1.0 - 16-18 hours lecture. (No Prerequisite. Pass/No Pass)

This National Fire Academy course is designed to give the fire fighter student information and skills necessary to establish command, perform size-up, develop and implement an action plan, transfer command, and organize an incident using an effective command system. Accredited by State Fire Marshal's Office.

**FIRE 53 HAZARDOUS MATERIALS FIRST RESPONDER OPERATIONAL DECONTAMINATION**

Units: 0.5 - 8-9 hours lecture. (Prerequisite: FIRE 82A. Pass/No Pass)

This course provides the student with the information and skills to safely and competently decontaminate people and equipment at a hazardous materials (haz mat) incident. California Specialized Training Institute (CSTI) certified. Meets federal and state requirements as listed in 29 CFR 1910.120 (q), CCR 5192 (q), NFPA472. \$10.00 fee for CSTI certificate.

**FIRE 54 FIRE COMMAND 2E**

Units: 2.0 - 32-36 hours lecture. (No prerequisite. Pass/No Pass)

This course prepares the fire fighter student to manage the large wildland fire incident. Topics of discussion include: California's wildland fire problem, fire safety, weather effects, wildland fuel behavior, attack methods, using support equipment, strategy and tactics, air attack operations, and using maps. Simulation is featured. Chief Officer certified.

**FIRE 55 FIRE INSTRUCTOR 2A**

Units: 2.5 - 40-45 hours lecture. (Prerequisite: FIRE 70 and FIRE 71. State mandated. Grade Option)

This course is designed to provide the fire technology student the skills to evaluate students. Topics include: construction of written (technical knowledge) and performance (manipulative skills) tests, as well as test planning, test analysis, test security, and evaluation of test results to determine instructor and student effectiveness. Essential course for writing valid, objective tests.

**FIRE 56 FIRE INSTRUCTOR 2B**

Units: 2.5 - 40-45 hours lecture. (No prerequisite. Grade Option)



This course is designed for the fire technology student who require skills leading groups of people in staff meetings, group discussions, and training sessions to solve problems, determine objectives, generate new ideas and provide instruction to subordinates.

### **FIRE 58 INTRODUCTION TO EMERGENCY MANAGEMENT**

Units: 4.0 - 64-72 hours lecture. (No Prerequisite. Grade Option)

This course provides the history, terminology, goals and mission of the Emergency Management occupation and profession. The roles, responsibilities, lines of authority and characteristics of effective program managers are presented. Professional associations, federal support programs, model state practices and functional activities are also discussed.

### **FIRE 58A COMMUNITY DISASTER PLANNING**

Units: 4.0 - 64-72 hours lecture. (No Prerequisite. Grade Option)

This course provides the student with the information and details to develop a community or company disaster plan. Topics of discussion include: developing a disaster plan for a company or community, developing a hazard analysis and capability assessment, building consensus, leveraging political assets to insure community readiness, and the process of adoption and revision. Students also will receive certificates from the Federal Emergency Management Agency (FEMA): IS-15, Special Event Contingency Planning; IS-3, Radiological Emergency Preparedness; IS-324, Community Hurricane Planning; IS-11, Animals in Disasters, Community Planning.

### **FIRE 58B EMERGENCY MANAGEMENT RESPONSE**

Units: 4.0 - 64-72 hours lecture. (No Prerequisite. Grade Option)

This course provides the student with the information and details of coordinating and operating a community emergency operations center (EOC). How to coordinate the resources of a community or company, identify specific threats, and the operational requirements of an EOC are presented. Students will also receive certificate of completion from the Federal Emergency Management Agency (FEMA): IS-275, The Role of the EOC in Community Preparedness, Response and Recovery; IS-271, Anticipation of Weather and Community Risk; IS-301, Radiological Emergency Response; Q-534, Emergency Response to Terrorism; IS-288, Managing Volunteer Resources.

### **FIRE 58C EMERGENCY MANAGEMENT RECOVERY**

Units: 4.0 - 64-72 hours lecture. (No Prerequisite. Grade Option)

This course provides the student with the information and details of making the transition from response to recovery to a company disaster. Case studies examine mass fatality management, earthquakes, flooding and terrorism incidents. Students receive certificates of completion from the Federal Emergency Management Agency (FEMA): IS-7, Citizens Guide to Disaster Assistance; IS-208, State Disaster Management; IS-600, Special Considerations for FEMA Public Assistance Projects; IS-630, Introduction to the Public Awareness Process.

### **FIRE 58D INTRODUCTION TO MITIGATION FOR DISASTERS**

Units: 4.0 - 64-72 hours lecture. (No Prerequisite. Grade Option)

This course provides the student with the information and details to plan and implement mitigation strategies for a community or business. Mitigation includes all activities that improve a community or business's survivability from an identified threat. Identifying needs, obtaining funding and executing mitigation programs are the objectives of this course. Students also will receive certificates of completion from the Federal Emergency Management Agency (FEMA): IS-393, Introduction to Mitigation; IS-394, Mitigation for the Homeowner; IS-8, Building for the Earthquake of Tomorrow; IS-9, Managing Floodplain Development.

### **FIRE 59 BASIC WILDLAND FIRE FIGHTER ACADEMY**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. Pass/No Pass. Recommended preparation: Good attitude and willingness to work hard.)

This course presents information and skill development to students seeking employment and a career with a wildland fire agency. Certificates awarded to successful graduates are applicable to all state and federal wildland fire agencies. North West Coordinating Group (NWCG) certified. California Department of Forestry (CDF) certified.

### **FIRE 60B ADVANCED INCIDENT COMMAND SYSTEM, I-400**

Units: 1.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. Pass/No Pass. Recommended preparation: Good attitude and willingness to work hard.)

This course will emphasize large scale organization development, roles and relationships of the primary command staff; the planning, operational, logistical and fiscal considerations related to command of a large and complex incident. Fire Service Training and Education Program (FSTEP) certified. There is a \$5.00 fee for certificate.

**FIRE 60C INCIDENT SAFETY OFFICER, S-401**

Units: 1.5 - 24-27 hours lecture. (Prerequisites: FIRE 66.1, FIRE 80A, FIRE 60E or employment within a recognized fire service agency at the rank of company officer or above. State Mandated. Pass/No Pass)

This course prepares the fire fighter student to work as a safety officer within the Incident Command System, with emphasis on unsafe and hazardous conditions at emergency scenes. Fire Service Training and Education Program (FSTEP) certified. There is a \$5.00 fee for certificate.

**FIRE 60E DIVISION/GROUP SUPERVISOR, S-339**

Units: 1.0 - 16-18 hours lecture. (Prerequisites: FIRE 60G, FIRE 66, FIRE 86. State Mandated. Pass/No Pass).

This course will provide the information necessary to support the specific tasks of the Division/Group Supervisor position within the Incident Command System. North West Coordinating Group certified.

**FIRE 60F ICS-334 STRIKE TEAM LEADER-ENGINE**

Units: 1.0 - 16-18 hours lecture. (No prerequisite, Pass/No Pass)

This course describes and explains the basic responsibilities of an Engine Strike Team Leader. Topics of discussion include: the strike team concept; types of strike teams; pre-incident responsibilities; assembly and travel; incident arrival; check-in; assigned/available status; out-of-service status; demobilization/release.

**FIRE 60G INCIDENT COMMANDER, INITIAL ATTACK, S-200**

Units: 1.0 - 16-18 hours lecture. (Prerequisites: FIRE 66, FIRE 80. State mandated by California Fire Service Training and Education (CFSTES) and Incident Command system (ICS) by NWCG, or experience as a fire fighter working within the ICS. Pass/No Pass)

This course provides information and techniques to prepare the fire fighter student to command an initial attack at a wildland fire and incorporate resources effectively. North West Coordinating Group (NWCG) certified.

**FIRE 60H INCIDENT COMMANDER, EXTENDED ATTACK, S-300**

Units: 1.0 - 16-18 hours lecture. (Prerequisites: FIRE 60G, FIRE 66, FIRE 86. State mandated. Pass/No Pass)

This course will provide the fire fighter student the information necessary to command an incident that goes beyond the initial attack stage and incorporates

additional resources. North West Coordinating Group certified.

**FIRE 61 RESCUE PRACTICES**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory.

Rescue practices will provide training for emergency service personnel in reaching victims injured in collisions, cave-ins, collapse, or inaccessible areas such as mountainous terrain. Course includes training in both light and heavy auto extrication and packaging victims for transport; recovery of victims of earth collapse such as trench rescue; basic repelling techniques and use of the basket stretcher.

**FIRE 61A MEDICAL UNIT LEADER, S-359**

Units: 0.5 - 8-9 hours lecture. (Prerequisites: FIRE 81 and FIRE 66.1. State mandated. Pass/No Pass)

This course prepares the fire fighter student to work as a medical unit leader within the Incident Command System. Responsibilities, procedures and materials involved with the operation and function of the Medical Unit are discussed. North West Coordinating Group certified.

**FIRE 61B BASIC AIR OPERATIONS, S-270**

Units: 1.0 - 16-18 hours lecture. (Prerequisite: FIRE 66. State mandated. Pass/No Pass)

This course will provide the fire fighter student with a survey of uses of aircraft in fire suppression and how to conduct themselves in and around aircraft. Management policies, regulations, and procedures which govern aviation operations in fire suppression will be examined. Aircraft tactical capabilities, logistical uses and specifications for helicopter landing areas are discussed. North West Coordinating Group certified.

**FIRE 61C HELISPOT MANAGER, S-272**

Units: 0.5 - 8-9 hours lecture. (Prerequisite: FIRE 60G. State Mandated. Pass/No Pass)

This course will provide the fire fighter student with an overview and the information about responsibilities, procedures and materials required to function as a Helispot Manager within the Incident Command System. North West Coordinating Group certified.

**FIRE 61D RESOURCE UNIT LEADER/ DEMOBILIZATION UNIT LEADER**

Units: 2.0 - 32-36 hours lecture. (Prerequisites: FIRE 61E and FIRE 66.1. State mandated. Pass/No Pass)

This course prepares the fire fighter student to work as a resource unit leader/demobilization unit leader within

the Incident Command System. The responsibilities, duties and materials required to function in this position are discussed. North West Coordinating Group certified.

**FIRE 61E CHECK IN/STATUS RECORDER, S-248**

Units: 0.5 - 32-36 hours lecture. (Prerequisites: FIRE 61E and FIRE 66.1. State mandated. Pass/No Pass)

This course will provide the fire fighter student with the information required to function in the position of Check In/Status Recorder within the Resources Unit of the Incident Management System (ICS). North West Coordinating Group certified.

**FIRE 61F STAGING AREA MANAGER**

Units: 0.5 - 8-9 hours lecture. (Prerequisite: FIRE 60G, S-200. Pass/No Pass)

This course will provide the fire fighter student with information about the duties, responsibilities and materials required to function as a staging area manager. Fire Service Training Education Program (FSTEP) certified.

**FIRE 61G FIRE LINE EMERGENCY MEDICAL TECHNICIAN (EMT)**

Units: 0.5 - 8-9 hours lecture. (Prerequisites: FIRE 81, current EMT--I certification (state mandated per CFSTES policy), employment as a fire fighter in a public or private fire service organization. Pass/No Pass)

This eight hour course is designed to prepare the fire fighter, Emergency Medical Technician to safely operate at a major wildland fire incident at the fire line location. Course covers duties and responsibilities of the Fire Line EMT; equipment needs, helicopter safety, the Incident Command System (ICS) organization, review of treatments for common fire line injuries, and use of makeshift aids.

**FIRE 63 APPARATUS DRIVER/OPERATOR IA**

Units: 1.5 - 24-27 hours lecture and 16-18 hours laboratory. (No prerequisite)

This course is designed to provide the student with information on driver techniques for emergency vehicles and techniques of basic inspection and maintenance for emergency vehicles, including actual driving exercises under simulated emergency situations.

**FIRE 64 APARATUS DRIVR/OPERATOR IB**

Units: 1.5 - 24-27 hours lecture and 16-18 hours laboratory. (No prerequisite)

This course is designed to provide the student with information on driver techniques for emergency vehicles and techniques of inspection, operation of fire pumps,

including actual driving and pumping of water under simulated emergency exercises.

**FIRE 65 BASIC WILDLAND FIRE CONTROL**

Units: 2.0 - 28 hours lecture, and 16-18 hours laboratory. Offered Spring. (No prerequisite)

Basic wildland hand-crew training. The course covers fire suppression organizations, fire behavior, meteorology, suppression techniques, and safety. Meets federal fire agencies requirements for employees and mutual aid cooperators.

**FIRE 65O CAMPBELL PREDICTION SYSTEM**

Units: 1.0 - 16-18 hours lecture. (No prerequisite. Pass/No Pass)

This course is designed for the fire fighter and fire officer who want to know why, when and where wildland fire behavior will change, and how to make these predictions to apply safe and effective tactics or evacuate a dangerous area and learn a system to effectively communicate these predictions to others. California Department of Forestry certified.

**FIRE 66 INTRODUCTION TO INCIDENT COMMAND**

Units: 1.0 - 16-18 hours lecture. (No prerequisite)

This course provides an introduction to, and an overview of the Incident Command System and introduces the participants to the NIMS (National Interagency Incident Management System).

**FIRE 67 TRENCH RESCUE**

Units: 0.5 - 8-9 hours lecture. (No prerequisite)

This course is designed to provide hands on techniques for fire service personnel to effect a rescue at an excavation or trench cave-in. Topics include: critical considerations while responding to trenching emergencies; evaluation of cave-in scenes; basic life support procedures and temporary protection for victims; specialized tool usage; shoring techniques; and below grade rescue safety procedures.

**FIRE 69 BUILDING CONSTRUCTION FOR FIRE PROTECTION**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course is the study of the components of building construction that relates to fire safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at fires. The development and evolution of building and fire codes will be studied in relationship to past fires, in residential, commercial, and industrial occupancies.

**FIRE 70 INSTRUCTOR IA – INSTRUCTIONAL TECHNIQUES PART I**

Units: 2.5 - 40-45 hours lecture. (No prerequisite)

This is the first of a three-course series. Topics include methods and techniques for training in accordance with the latest concepts in career education; selecting, adapting, organizing, and using instructional materials appropriate for teaching cognitive lessons; criteria and methods to evaluate teaching and learning efficiency; and an opportunity to apply major principles of learning through teaching demonstrations. Two (2) student instructor teaching demonstrations are required of all. Designed for personnel preparing for company officer, SFT registered instructor or training officer position.

**FIRE 71 TRAINING INSTRUCTOR 1B – PSYCHOMOTOR LESSON DELIVERY**

Units: 2.5 - 40-45 hours lecture. (Prerequisite: FIRE 70 with a grade of C or better.) This course may be taken four times.

This is the second of a three-course series. Topics include methods and techniques for training in accordance with the latest concepts in career education; selecting, adapting, organizing, and using instructional materials appropriate for teaching psychomotor lessons; criteria and methods to evaluate teaching and learning efficiency; and an opportunity to apply major principles of learning through teaching demonstrations. Two student instructor teaching demonstrations are required of all. Designed for personnel preparing for a Company Officer, SFT Registered Instructor, or Training Officer position.

**FIRE 72 FIRE COMMAND IA – COMMAND PRINCIPLES FOR COMPANY OFFICERS**

Units: 2.0 - 32-36 hours lecture. Offered Fall. (No prerequisite)

This course provides the instruction and simulation time to the participants pertaining to the initial decision and action processes at a working fire. The course includes areas of discussion on the fire officer, fire behavior, fire-ground resources, operations and management. This course applies to Fire Officer certification.

**FIRE 73 FIRE COMMAND IB – HAZARDOUS HAZARDOUS MATERIALS COMMAND PRINCIPLES FOR COMPANY OFFICERS**

Units: 2.0 - 32-36 hours lecture. (No prerequisite. FIRE 66 recommended)

This course provides instruction in tactics and strategies and scene management principles for incidents involving hazardous materials. The course includes areas of discussion on identification and hazard mitigation, decontamination, protective clothing,

environmental concerns, and legal issues. This course applies to Fire Officer certification.

**FIRE 74 FIRE PREVENTION IA – FIRE INSPECTION PRACTICES**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

This course provides a broad, technical overview of fire prevention codes and ordinances, inspection practices, and key hazards. Some areas of discussion include flammable and combustible liquids and gases, explosives, fireworks, extinguishing systems and others. This course applies to Fire Officer, Fire Prevention Officer I, and Public Education Officer I certifications.

**FIRE 74C FIRE PREVENTION 2A**

Units: 2.5 - 40-45 hours lecture. (No prerequisite)

This course provides the most up-to-date information on laws and regulations pertaining to systems, description, installations and problems relating to fire protection systems. This course is specifically designed for in-service fire department personnel wishing to complete their Prevention Officer II certification.

**FIRE 74D FIRE PREVENTION 2B**

Units: 2.5 - 40-45 hours lecture. [Prerequisite: Completion of State Fire Training (SFT) Fire Prevention Officer Certification Track].

This course provides the participants with extensive, in depth information about the fire and life safety standards of buildings as they relate to Titles 19 and 24. Topics for discussion include: Types of construction, construction methods and materials, interior finishes, roof coverings, occupancy and more.

**FIRE 74E FIRE PREVENTION 2C**

Units: 2.5 - 40-45 hours lecture. (Prerequisite: Completion of State Fire Training (SFT) Fire Prevention Officer Certification Track)

This course introduces the participants to unique and unusual prevention challenges. Topics include: Industrial ovens, cleaning and finishing processes, welding, refrigeration systems, medical gases, fireworks, and special extinguishing systems.

**FIRE 75 FIRE PREVENTION IB – CODE ENFORCEMENT**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

This course focuses on the ordinances and statutes that pertain to fire prevention practices in California. Some topics of discussion include building construction and occupancy, evacuation procedures, inspection reports, and processing plans. This course applies to Fire

Officer, Fire Prevention Officer I, and Public Education Officer I certifications.

**FIRE 76 MANAGEMENT 1-SUPERVISION FOR COMPANY OFFICERS**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

This course is designed to prepare or enhance the first line supervisor's ability to supervise subordinates. It introduces key management concepts and practices utilized in the California Fire Service. The course includes discussions about decision making, time management, leadership styles, personnel evaluations, and counseling guidelines. This course applies to Fire Officer certification.

**FIRE 77 INVESTIGATION IA – FIRE CAUSE AND ORIGIN DETERMINATION**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

This course provides the student with an introduction and basic overview of fire scene investigation. Provides information on fire scene indicators, and introduces fire service personnel to the concepts of fire investigation. Applies to Fire Officer and Fire Investigator I certification.

**FIRE 78 FIRE PREVENTION IC – FLAMMABLE LIQUIDS AND GASES**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

This course provides the students with information on how to safely store, handle, dispense and transport flammable liquids and gases. Topics of discussion include: bulk handling and storage requirements, transportation of flammable and combustible liquids and gases, fire code requirements for storage outdoors, indoors, inside special rooms and portable container requirements. Applies towards Fire Prevention Officer I certification.

**FIRE 79 FIRE INVESTIGATION IB**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

This course provides the participants with information to achieve a deeper understanding of fire investigation. This course builds on FIRE 77 Investigation IA and adds topics of discussion including the juvenile fire setter, report writing, evidence collection and preservation procedures.

**FIRE 80 INTRODUCTION TO WILDLAND FIRE BEHAVIOR, S-190**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Pass/No Pass)

This course will familiarize the student with the basic concepts and components of wildland fire behavior. North West Coordinating Group (NWCG) certified.

**FIRE 80A INTERMEDIATE WILDLAND FIRE BEHAVIOR, S-290**

Units: 2.0 - 32-36 hours lecture and 8-9 hours laboratory. (Prerequisites: FIRE 80. State mandated by California Fire Service Training and Education (CFSTES) and Incident Command System by North West Coordinating Group, or experience as a fire fighter working within the ICS. Credit No/Credit)

This course will present to firefighting students the skills and information necessary to prepare them for safe and effective operations at wildland fires. Meets the training requirements to work in the Incident Command System (ICS) Operations Section, as a Single Resource or Strike Team Leader. North West Coordinating Group (NWCG) certified. Coordinating Group, or experience as a fire fighter working within the ICS. Credit No/Credit)

**FIRE 80B WILDLAND FIRE SUPPRESSION TACTICS, S-336**

Units: 2.0 - 32-36 hours lecture. (Prerequisites: FIRE 80A, FIRE 66. State mandated. Pass/No Pass)

This course will provide the fire fighter student the information necessary to operate within the Operations Section of the Incident Command System. North West Coordinating Group certified.

**FIRE 81 EMERGENCY MEDICAL TECHNICIAN I**

Units: 8.0 - 120 hours lecture and 28 hours laboratory. (Prerequisite: Students must complete TB test and provide copy of immunization records prior to clinical training.)

The first phase of training in the Emergency Medical Technician I career for fire fighters and other emergency first responders. Covers all techniques of emergency medical care considered the responsibility of the Emergency Medical Technician I. Course emphasizes the development of student skills in recognition of symptoms of illness and injuries and proper procedures of emergency care. Course includes certification in professional CPR (Cardio Pulmonary Resuscitation). Approved by the California State Fire Marshal's Office and the State Board of Fire Services. Certificate from Fire Service Training and Education Program (FSTEP) awarded.

**FIRE 81B EMT-I, CONTINUING EDUCATION RECERTIFICATION**

Units: 0.5 - 4 hours lecture and 12 hours laboratory. (Prerequisite: EMT-1. State and county mandated. Pass/No Pass. ) This course may be taken four times.

This course provides the student with the information skills development and testing requirements for recertification qualification for Emergency Medical Technician 1 and qualifies for Continuing Education credit.

**FIRE 82 HAZARDOUS MATERIALS FIRST RESPONDER AWARENESS**

Units: 0.5 - 8 hours lecture and 1 hour laboratory. (No prerequisites).

This course is designed to provide the student with information essential to those people who are likely to be first responders at hazardous materials incidents. Designed to meet federal and state requirements for awareness training for employees handling and using hazardous materials.

**FIRE 82A HAZARDOUS MATERIALS FIRST RESPONDER OPERATIONAL**

Units: 1.5 - 24-27 hours lecture. (No prerequisite)

To provide participants who are likely first responders with the necessary awareness of safe and competent hazardous materials response techniques. Participants shall also be able to provide safe identification and assessment evaluation, as well as select safe containment and protective actions to mitigate the hazardous materials incident whenever safety and resource capabilities permit.

**FIRE 83 FIRE MANAGEMENT 2C, LABOR AND PERSONNEL MANAGEMENT**

Units: 2.0 - 32-36 hours lecture. (No prerequisites)

This course provides the fire fighter student with knowledge and insight into firefighting personnel, human resources, and diversity management. Legal mandates, labor relations, and related areas are explored with a focus on human resource management and individual employee development strategies.

**FIRE 84 FIRE COMMAND 2A-COMMAND TACTICS AT MAJOR FIRES**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

This course is designed to provide the student with the management techniques and use of the Incident Command System (ICS) necessary for the efficient and safe command of large fires, multiple alarms and emergencies requiring large numbers of personnel and apparatus. Features simulation and case studies to develop management and command skills. Applies to Chief Officer Certification. California Fire Service Training and Education System (CFSTES) approved.

**FIRE 85 FIRE MANAGEMENT 2A-ORGANIZATIONAL DEVELOPMENT AND HUMAN RELATIONS**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

This course provides the student with information on how to make the transition from supervisor to manager. Topics of discussion include internal and external influences; personality traits of fire fighters; managing human relations; group dynamics; conflict solution and more. This course applies to Chief Officer Certification. California Fire Service Training and Education System (CFSTES) approved.

**FIRE 86 INTERMEDIATE INCIDENT COMMAND SYSTEM (ICS)**

Units: 1.5 - 24-27 hours lecture. (Prerequisite: FIRE 66 or experience as a fire fighter using the ICS system. Pass/No Pass)

This course expands the firefighting student's knowledge of ICS and how to expand the system to fit the emergency and adds air operations and the control and management of these resources to the ICS system.

**FIRE 87 FIRE MANAGEMENT 2E**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

Designed for Fire Chief Officers, Company Officers and functional managers, this course provides an overview of current issues and concepts of today's modern fire service. Topics include: governmental relations, changing "settings/policy formation," program management, personnel/labor relations, and the legal environment.

**FIRE 90 PAID CALL FIRE FIGHTER ACADEMY**

Units: 3.0 - 32-36 hours lecture hours and 48-54 hours laboratory.

(Prerequisite: Without the required physical strength and stamina to safely operate and control fire service tools, equipment and apparatus the student poses an undue risk to him/herself and to other fire technology students. Physical fitness requirements include strong back, torso, and legs and arms with flexibility and agility. Good hand and eye coordination plus the ability to remain calm under conditions of stress and personal discomfort are essential. Physical medical exam equal to sport physical or a pre-employment physical is required to determine if the student has a disqualifying injury or condition that would result in an injury or accident to the student.)

The Paid Call Fire Fighter Academy will provide basic training for individuals interested in becoming a Paid Call Fire Fighter. Students must attend a mandatory orientation.

**FIRE 91 FIRE CONTROL 5**

Units: 1.5 - 24-27 hours lecture and 16-18 hours laboratory. (No prerequisite. Pass/No Pass)

This course provides the fire fighter student with the information, methods and techniques necessary for providing crash fire rescue services (CFR) at airports. Subjects include: Utilizing conventional fire and specialized apparatus, CFR extinguishing agents, types of aircraft, standby procedures and operations at airports. Actual firefighting and simulation is featured.

**FIRE 93 FIRE MANAGEMENT 2D, MASTER PLANNING**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

This course provides participants with information and discussion centering around program planning, master planning, forecasting, system analysis, system design, policy analysis, and other topics. Applies to Chief Officer certification. State Fire Marshal accredited.

**FIRE 94 FIRE COMMAND 2D, PLANNING FOR LARGE SCALE DISASTERS**

Units: 2.0 - 32-36 hours lecture. (No prerequisite)

The principles of disaster planning and the role of the fire department are discussed. Emergency Operation Centers (EOC), the role of Federal Emergency Management Administration (FEMA), mutual aid, legal considerations, and mitigation techniques are topics covered. Case studies are examined and simulation exercises are feature.

**FIRE 95 BASIC FIRE ACADEMY**

Units: 10.0 - 112 hours lecture and 208 hours laboratory. (No prerequisite)

Introduction to basic firefighting theory and skills; study of the characteristics and behavior of fire; practice in fundamental fire suppression activities, with special attention on safety, first aid, and rescue procedures.

**FIRE 98 FIRE COMPANY OFFICER'S ACADEMY**

Units: 1.5 - 24-27 hours lecture and 16-18 hours laboratory. (No prerequisite)

This forty-hour course is designed for the fire fighter student in order to provide students with a brief but comprehensive overview of the responsibilities of a fire department company officer. Emphasizes fundamental techniques of personnel management, supervision and leadership. Topics covered include: motivating, coaching and counseling subordinates; basic fire ground principles; and fire ground tactics and strategies at the company officer level.

**FIRE 99 CHIEF OFFICER'S WORKSHOP**

Units: 1.0 - 16-18 hours lecture. (Prerequisites: I-300, S-430, S-400. State mandated. Pass/No Pass)

This course provides the fire fighter student with current topics and challenges facing the fire service and chief officer's as supervisors. Topics include legal issues resulting from hazardous materials incidents, emergency medical protocols, terrorism, current management policies and procedures. CDF certified.

**FIRE 100 FIRE PROTECTION ORGANIZATION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; life safety initiatives.

**FIRE 101 FUNDAMENTALS OF FIRE SERVICE OPERATIONS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Provides the student with the fundamentals of fire department organization, management, and resources, and emphasizes the use of those resources to control various emergencies.

**FIRE 102 FIRE PREVENTION TECHNOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationship of fire prevention with fire safety education and detection and suppression systems.

**FIRE 103 FIRE PROTECTION EQUIPMENT AND SYSTEMS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course provides information relating to the features of design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection and portable fire extinguishers.

**FIRE 104 FIRE BEHAVIOR AND COMBUSTION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course will study the theory and fundamentals of how and why fires start, spread, and are controlled; an in-depth study of fire chemistry and physics, fire characteristics of materials, extinguishing agents, and fire control techniques.

**FIRE 105 FIRE APPARATUS AND EQUIPMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Fire apparatus design, specifications, and performance capabilities; effective utilization of apparatus in fire service emergencies.

**FIRE 106 FIRE COMPANY ORGANIZATION AND MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Review of fire department organization, fire company organization, study of leadership and supervision with emphasis on communications, training, fire prevention, records and reports, and problem solving.

**FIRE 107 FIRE INVESTIGATION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

A study of the cause and origin of any and all types of fires (accidental, incendiary, and suspicious); and law relating to fire investigation. Recognizing, collecting, and preserving evidence, interviewing witnesses and suspects, arrest and detention procedures, court procedures and giving a testimony.

**FIRE 108 FIRE HYDRAULICS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

Review of applied mathematics; hydraulics laws as applied to the fire service; application of formulas and mental calculation to hydraulics and water supply problems.

**FIRE 109 WILDLAND FIRE CONTROL**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

A course designed to provide employed firemen or fire science majors with a fundamental knowledge of the factors affecting wildland fire prevention, fire behavior, and control techniques.

**FIRE 121 FIRE MANAGEMENT 2B**

Units: 2.0 - 32-36 hours lecture. CSU. (No prerequisite)

This course is designed to provide information and insight into the cyclical nature of budgeting and financial

management. As a management course, the student will be presented with the essential elements of financial planning, budget preparation, budget justification, and budget controls. This course applies to Chief Officer Certification.

**FIRE 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**FIRE 148 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU

**FIRE 149 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU





## FRENCH

The study of French concentrates on explaining and communicating ideas and concepts by means of reading, writing, and verbal processes through creative use of words and study of culture, literature, and civilization, with classroom emphasis on the spoken language. This study affords insight into foreign attitudes and methods and encourages free communication, written and oral, among people.

### Career Opportunities

Advertising  
Education  
Government  
Health Services  
International Business  
Journalism  
Law Enforcement  
Publishing  
Social Work  
Writing

### Faculty

#### **Full Time**

Claudia Basha - Emeritus

### Degrees and Certificates Awarded

Associate in Arts, Liberal Arts

### Certificate Program

No certificates awarded.

### Associate Degree

No associate degree offered with a major in French. French courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major.

### Transfer

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*French major*
- **University of California, Riverside**  
*French major*

## FRENCH COURSES

### **FREN 101 ELEMENTARY FRENCH**

Units: 5.0 - 80-90 hours lecture. CSU, UC. (No prerequisite)

Basic structures of French language, inductive presentation of grammar, simple composition. Emphasis placed on the spoken language.

### **FREN 102 ELEMENTARY FRENCH**

Units: 5.0 - 80-90 hours lecture. CSU, UC. (Prerequisite: FREN 101)

Continuation of French 101 stressing review of basic structures, more advanced grammar, spoken and written communication.

### **FREN 103 INTERMEDIATE FRENCH**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: FREN 102)

Continuation of French 102 with grammar review and expansion, introduction to simple literary texts, spoken and written communication.

### **FREN 104 INTERMEDIATE FRENCH**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: FREN 103)

Continuation of French 103 with further grammar review and expansion, reading of simple literary texts, spoken and written communication.

### **FREN 125 CONVERSATIONAL FRENCH**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Grade Option)

An introduction to the French language using situations the visitor will commonly encounter. Introduction to simple French structures and grammar with emphasis on the spoken language.

### **FREN 128 SPECIAL TOPICS**

See Special Topics listing (Variable units).

### **FREN 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units).



**GEOGRAPHIC  
INFORMATION SYSTEMS (GIS)**  
See "Agriculture and Natural Resources"

**GEOGRAPHY**

Geography explains and describes the Earth. Geographers look at earth-sun relationships, seasons, weather, and other physical aspects of the earth's environment such as climate, topography, earthquakes, and volcanoes. Some geographers look at the cultural landscape of the earth in terms of its people, their organizations, language, religion, and settlement patterns. All geographers compare and contrast information in order to explain similarities and differences as they occur over time and space. The framework of geography is location through the use of place names. The primary tool of geographers is the map, which is used for spatial analysis of the earth's attributes.

**Career Opportunities**

Computer analysis of data through the use of Geographic Information Systems is a rapidly growing field which can be applicable to many employment settings. The following list is a general guideline. Most require at least a bachelor's degree.

Aerial Photographer/Interpreter  
Biogeographer  
Cartographer  
City Planner  
County Planner  
Environmental Analyst  
Economic Geographer  
Foreign Correspondent  
Foreign Correspondent Educator  
GIS – Spatial Analyst  
Industrial Location Specialist  
International Trade Relations  
Marketing Analyst  
Meteorologist  
Population Specialist  
Resource Planner  
Soil Scientist  
Transportation Specialist  
Travel Agent

**Faculty**

**Full Time**

Carol A. DeLong

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts

**Certificate Program**

No certificates awarded.

**Associate Degree**

No associate degree offered with a major in Geography. Geography courses may be used to fulfill requirements

for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**  
*Geography major*

■ **University of California, Riverside**  
*Geography major*

**GEOGRAPHY COURSES**

**GEOG 101 PHYSICAL GEOGRAPHY**

Units: 3.0 - 48-54 hours lecture. CSU, UC (No prerequisite.)

Fundamental geographical concepts are studied. Emphasis is on the physical world, its components and interrelationships, as well as current geographic issues. Topics include earth/sun relationships and seasons, weather and climate, earthquakes and volcanoes, rocks and minerals, oceans and coastlines, glaciers, and landform distribution. Also included are introductory methods of map interpretation.

**GEOG 101L GEOGRAPHY LABORATORY**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (Prerequisite: GEOG 101 with a grade of 'C' or better)

An interactive exploration of earth's weather and climate, vegetation and soils, rocks and minerals, earthquakes and volcanoes. Tectonic forces are studied as relating to landform destruction and creation. Gradational forces are studied as relating to the processes of water, wind and ice.

**GEOG 102 INTRODUCTION TO CULTURAL GEOGRAPHY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

An examination of human activities on the surface of the earth as exhibited by various cultures. Global variations in land-use systems, settlement patterns, economic activities, political and religious institutions, languages, and the numbers and movement of human populations are explored.

**GEOG 103 GEOGRAPHY OF CALIFORNIA**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

Study of California's physical and cultural characteristics. Physical topics covered include earthquakes, fires, landslides, floods and volcanoes. Cultural topics include diversity, immigration, urbanization, agriculture and economics.

### **GEOG 104 WORLD REGIONAL GEOGRAPHY**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

An examination of the world's countries within their global regions with emphasis on their physical and cultural attributes. Variations within and among these global regions are explored.

### **GEOG 110 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS(GIS)**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite)

GIS basics and applications are explored, including terminology, mapping and problem solving. Current GIS software applications and GPS navigational systems are utilized.

### **GEOG 120 METEOROLOGY**

Units: 4.0 - . 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

A comprehensive study of meteorological principles which focus on real-time weather situations. Maps and graphics of current weather data illustrate the basic components of weather, such as temperature, pressure, wind, precipitation and severe weather phenomena, including tornadoes and hurricanes.

### **GEOG 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU. UC.

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## **GEOLOGICAL SCIENCES**

Geology is the science of the world. It is a broad field encompassing such diverse specific topics as ground water management, mining, volcanic processes, and soil conservation as well as theoretical aspects within the broader fields of mineralogy, petrology, paleontology, weathering processes, plate tectonics, and geologic times. Geology necessarily extracts much of its knowledge from the related sciences of chemistry, physics, biology, meteorology, oceanography, and even astronomy.

Because of its breadth, virtually no construction, manufacturing, or environmental planning can take place without considering geological or environmental principles, and there is a corresponding range of employment opportunities.

The geological sciences program is a two-year sequence designed to prepare students for continuing study at an advanced undergraduate level at a four-year college or university.

### **Career Opportunities**

Mining Geologist  
Environmental Planner  
Ground Water Quality Manager  
Petroleum Engineer  
Paleontologist  
Geoarchaeologist  
Geological Engineer  
Soil Conservationist  
Metallurgist  
Exogeologist (Astrogeologist)  
Geomorphologist

### **Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts  
Associate in Science, Math/Science

### **Certificate Program**

No certificates awarded.

### **Associate Degree**

No associate degree offered with a major in Geological Sciences. Courses in Geological Sciences may be used to fulfill requirements for an Associate in Science degree with a major in Math/Science. See Math/Science for degree requirements for this major. Courses may also be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major.

### **Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**  
*Geology major*

■ **University of California, Riverside**  
*Geology major*  
*Geophysics major*

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## **GEOLOGY COURSES**

### **GEOL 101 PHYSICAL GEOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

A study of the factors and processes that have created and shaped the earth's surface, the geologic structures

that comprise it, and the minerals and rocks that form it. Field trips are scheduled to areas of representative local geology.

### **GEOL 102 HISTORICAL GEOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

A study of the chronological development of the surface of the earth and of the corresponding evolution of life. Of vital importance to the course is a thorough understanding of the concepts of geologic time, biological classification, and evolution. Emphasis is placed on historical development of North America.

### **GEOL 103 GEOLOGY OF CALIFORNIA**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A survey of the physical and historical geology of the 12 distinct geologic provinces of the state. Greatest emphasis is placed on the most important structural, scenic, and economic details of each region, and upon the provinces of Southern California.

### **GEOL 109 GEOLOGY OF THE WESTERN NATIONAL PARKS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

A survey course describing the geological features of the national parks and monuments of the Western United States, illustrating why these areas serve as important preserves of such features.

### **GEOL 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU

### **GEOL 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU



## **GERMAN**

The study of German focuses on explanation and communication of ideas and concepts using reading, writing, and verbal processes. Classroom emphasis is on the spoken language. Culture, literature, and civilization are important aspects of study as well. This study affords insight into foreign attitudes and methods and encourages free communication, written and oral, among people.

### **Career Opportunities**

Advertising  
Education  
Government, including military  
Health Services  
Journalism  
Law Enforcement  
Publishing  
Scientific Research  
Social Work

### **Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts

### **Certificate Program**

No certificates awarded.

### **Associate Degree**

No associate degree offered with a major in German. German courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major.

## **GERMAN COURSES**

### **GERM 101 ELEMENTARY GERMAN**

Units: 5.0 - 80-90 hours lecture. CSU, UC (No prerequisite)

Inductive presentation of German language fundamentals: pronunciation, structure, simple composition, culture. Emphasis placed on using and understanding the spoken language.

### **GERM 102 ELEMENTARY GERMAN**

Units: 5.0 - 80-90 hours lecture. CSU, UC (Prerequisite: GERM 101 or equivalent)

Continuation of GERM 101 stressing review of basic structures, introduction of more advanced grammar, spoken and written communication in authentic cultural contexts.

### **GERM 125 CONVERSATIONAL GERMAN**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite)

An introduction to the German language using situations the visitor will commonly encounter. Introduction to

simple German structures and vocabulary with emphasis on the spoken language.

**GERM 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC.

**GERM 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU.

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**GRAPHIC ARTS**

See Computer Integrated Design and Graphics

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**GUIDANCE**

Guidance classes offered at Victor Valley College are designed to assist students in becoming goal directed and successful.

Students needing help in identifying career and educational goals or help in applying successful learning and studying techniques are encouraged to sign up for these classes.

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**GUIDANCE COURSES**

**GUID 10 SUPPORT CLASS FOR LEARNING DISABLED STUDENTS**

Units: 1.0 - 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass)

Designed as a support class for students with diagnosed learning disabilities. Techniques for handling the social and emotional aspects of learning disabilities will be discussed.

**GUID 50 COLLEGE SUCCESS**

Units: 1.0 - 16-18 hours lecture. (No prerequisite. Grade Option)

This survey course is designed to introduce personal management and study techniques that are commonly applied among successful college students, with an emphasis on concepts such as the learning process, time management, note taking, efficient textbook reading, memory development and effective test-taking. It also serves as an orientation to college procedures and available campus resources.

**GUID 51 ORIENTATION TO COLLEGE**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Grade Option.)

This class is designed to provide students with a well-rounded knowledge and orientation to the policies, procedures, and academic and support services available at Victor Valley College. Students will develop

an educational plan relevant to their educational/career goals. It will introduce and help students understand major and general education, certificate, AA, and transfer requirements; identify the four-year college system (CSU, UC, and private); understand the financial aid process, and will allow students to develop and identify academic/career goals.

**GUID 55 BUILDING MATH CONFIDENCE**

Units: 1.5 - 24-27 hours lecture. (No prerequisite Grade Option.)

A group guidance program designed for those who fear math and/or are unable to deal with math successfully. Emphasis will be on how one approaches math by examining attitudes and dispelling faulty notions which erode confidence in one's ability to do math.

**GUID 56 SELF ESTEEM**

Units: 1.5 - 24-27 hours lecture. (No prerequisite Grade Option.)

This personal development course focuses on specific ideas and techniques to overcome negative feelings such as loneliness, guilt, depression, and inferiority. Students will develop a personal value system that leads to greater happiness and productivity.

**GUID 59 SPECIAL ISSUES IN PERSONAL DEVELOPMENT**

Units: 1.0 - 2.0 - (No prerequisite. Credit/ No Credit)

A series of short-term offerings developed in response to the common interest of special groups. Opportunities for an examination of the elements associated with particular issues of personal development and for group interaction on various topics of student concern.

**GUID 64 ORIENTATION (EOPS)**

Units: 0.5 - 8-9 hours lecture. (No prerequisite. Pass/No Pass)

This class is designed to orient EOPS students to the college's functions, programs, services, procedures, campus facilities, transfer and career information. Additionally, it will acquaint students with performance expectations.

**GUID 66 PEER ADVISING TECHNIQUES**

Units: 3.0 - 8-9 hours lecture. (No prerequisite. Pass/No Pass)

This course is designed to provide program advising skills, catalog, registration and scheduling information as well as helping skills that will prepare peer advisors to assist other students.

**GUID 75 CAREER PLANNING FOR THE DISABLED**

Units: 1.0 - 16-18 hours lecture. (No prerequisite. Pass/No Pass.)

This course is designed to offer students with disabilities a practical orientation in career selection and development of skills in job placement.

**GUID 100 CAREER AND LIFE PLANNING**

Units: 2.0 - 32-36 hours lecture. CSU. (No prerequisite. Grade Option.)

This group guidance course is designed to assist students in the career and life planning process through consideration of individual needs, personality, interests, abilities and values. Emphasis will be placed on personal growth through assessment, career research, goal setting, and decision making.

**GUID 101 FIRST YEAR EXPERIENCE**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Grade Option.)

This comprehensive course integrates personal growth, academic and career success with problem solving, critical and creative thinking. The course focuses on the following topics: life management, goal setting, career decision making, educational planning, college requirements and expectations, instructor-student interaction, cultural diversity, health maintenance, stress management, campus resources, learning styles, and strategies including lecture note-taking, test taking, and concentration.

**GUID 105 PERSONAL AND CAREER SUCCESS**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Grade Option)

This intensive course is designed to assist students in obtaining the skills and knowledge necessary to identify and reach their personal goals and achieve college and career success. Topics covered include: self-awareness, goal-setting, motivation and discipline, memory development, time management, oral and written communication skills, study skills, diversity, financial planning, and an orientation to college life. See cross listing for PSYC 105.

**GUID 107 LEARNING STRATEGIES AND STUDY SKILLS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This survey course assists students in assessing attitude, motivation, learning styles, and personality attributes that are necessary to the successful transition into college. Students will integrate this self-awareness with theories and strategies that focus on the attainment

of life long success in academic, professional and personal development. Topics include time management, study skills, test preparation, educational goal setting and planning, maintaining a healthy life style, and critical thinking skills.

**HEALTH COURSES****HLTH 102 CONTEMPORARY PROBLEMS IN PERSONAL AND COMMUNITY HEALTH**

Units: 3.0 - 48-54 hours lecture. CSU, UC. No prerequisite, Grade Option)

An introductory course emphasizing the scientific basis for making rational decisions on contemporary health problems of personal and social significance. Course includes personal nutrition, fitness, reproduction, and disease control. The course also includes a review of other current issues of community health.

**HEATING, VENTILATION, AIR  
CONDITIONING AND REFRIGERATION**  
 See Construction and Manufacturing Technology


## HISTORY

History examines the processes that have made today's realities. History is an evolving record of emotion, aspiration, frustration, and success. Historians deal with the goals, fears, interests, opinions, and prejudices of people in the past. What made people the way they were? What is the impact of their thought and action on people today and what is their impact on people tomorrow? As a study of people, history offers both a necessary understanding of one's place in the human experience and the conceptual framework for a lifelong avocation.

### Career Opportunities

Careers usually require bachelor's or advanced degrees.

Advertising/Marketing Research  
Archivist/Museum Curator  
Educator  
Genealogist  
Historian  
Journalist/Writer/Editor  
Lobbyist/Law Clerk/Lawyer  
Management Trainee  
Politician/Diplomat  
Pollster  
Professor  
Reference Librarian  
Risk Analyst  
Researcher  
Teacher  
Writer

### Faculty

#### **Full Time**

James Comer  
Tracy Davis  
Lisa Ellis  
Eric Mayer

### Degrees and Certificates Awarded

Associate in Arts, Liberal Arts

### Certificate Program

No certificate awarded.

### Associate Degree

No associate degree offered with a major in History. History courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major.

### Transfer

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**  
*History major*

■ **University of California, Riverside**  
*History major*

## HISTORY COURSES

### **HIST 50 UNITED STATE HISTORY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade option)

A survey of American social, political, and economic institutions from colonial origins to recent times. Course specifically designed for fulfillment of requirements of high school diploma and for non-transfer students.

### **HIST 55 HISTORY OF THE VICTOR VALLEY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade option)

This course will draw on a large body of source material and information gathered over a long span of years in the community as well as recently acquired and discovered material to trace the development and changes of life-styles and ways of life from one generation to another. There will be some attempt to tie local developments to national trends and events while also attempting to discover what is unique and significant about the experience of living in the high Mojave Desert during the era from 1850 to the present.

### **HIST 103 WORLD HISTORY TO 1500**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

Course will focus on the beginnings of civilization some five to seven thousand years ago in Mesopotamia, Asia, the Americas, Classical Civilizations and the Axis Age with an understanding of the world in 1500. Social, cultural, geographical, political and economic history of the various world civilizations will be stressed. The course is designed to challenge erroneous assumptions about world history and contemporary realities.

### **HIST 104 WORLD HISTORY SINCE 1500**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

Course will cover the period of 1600 to the 1980's and will focus on the making of the modern world. Interlocking themes will include the discovery of the New World and the rise of Capitalism, the resistance to this new economic system by the non-white world, the spread of Imperialism and the division of the world in the "core" (industrial) and "peripheral" (non-industrial) nations of the First and Third World. National revolution and rebellion especially in the 20th century will be

examined as well as the “end of the Third World” and the rise of the Pacific Rim as a model of national and economic development.

### **HIST 115 HISTORY OF CALIFORNIA**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A survey of the history and geography of California. The course will cover all aspects of the development of what is today known as California, including those contributions made by Indians, Spanish, Mexican, and early Anglo inhabitants. Special emphasis will be laid upon critical issues of the present. This course satisfies in part the California history requirement for teachers in the primary grades.

### **HIST H115 HONORS HISTORY OF CALIFORNIA**

Units: 3.0 - 48-54 hours lecture. CSU, UC (Prerequisite: Eligibility for ENGL 101.0/H101. Recommended preparation: HIST 50.)

A comprehensive study of California history, including native culture, the Mission era, the Ranchos, the Mexican War and the US conquest, and the era of US control. Economic, environmental and social issues are identified and discussed.

### **HIST 117 HISTORY OF THE UNITED STATES TO 1876**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite.)

American Civilization through the Civil War era. Native American and European antecedents will be studied. Colonial and revolutionary periods will be analyzed as well as the formation of a new nation. Gender and race issues will be examined in the light of nation building.

### **HIST H117 HONORS HISTORY OF THE UNITED STATES TO 1876**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation.) (No prerequisite. Recommended preparation: HIST 50)

American civilization, primarily focusing on the British colonies and the US, through the Civil War era. Native American, African and European antecedents will form part of the class. Students will analyze the colonial and revolutionary periods, as well as the Declaration of Independence and the Constitution in the formation of a new nation. The class examines gender and race issues in light of nation building and American culture. Honors classes will take students further into the course material with additional reading, in-class debates and graded roundtable discussion, and a term paper which involved both primary and secondary sources.

### **HIST 118 HISTORY OF THE UNITED STATES FROM 1876**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

A survey of the history of the United States from 1876 to the present. The course will focus on economic, political and social history in order to understand the casual factors that created the United States. Gender and ethnic history will be examined in light of the development of the United States and how diverse groups contributed to the historical reality of the United States.

### **HIST H118 HONORS HISTORY OF THE UNITED STATES FROM 1876**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite. Recommended preparation: ENGL 50 and HIST 50)

A survey of American history since reconstruction after the Civil War with emphasis upon those social, political, and economic factors which most shaped modern America. The honors format will be implemented, including a greater amount of outside reading material and more class time devoted to discussion of that material -- with consequently much less actual treatment of the basic textbook, which honors students will be expected to grasp adequately on their own. Particular attention will be focused on the varying viewpoints and interpretations of the important historic questions.

### **HIST 128 SPECIAL TOPICS**

See special Topics listing (Variable units). CSU, UC.

### **HIST 129 INDEPENDENT STUDY**

See Independent Study (1-3 units). CSU

### **HIST 130 LATIN AMERICAN HISTORY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

This course is designed to give students a chronological overview of Latin American History beginning with pre-Colombian societies and concluding with Latin American Independence. Focuses on the impact of the conquest of the “New World”, the role of the Catholic Church, Spanish mercantilism, and the economienda system, on the indigenous population and the development of Latin American society.

### **HIST 131 LATIN AMERICAN HISTORY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. HIST 130 (No prerequisite)

This course is designed to give students a chronological overview of Latin American History beginning with Latin



American Independence and concluding with present events and problems in Latin America. Students will gain an understanding of the social, economic, political, and diplomatic elements that have been the basis for post-Independence Latin American development. Special emphasis will be placed on US-Latin American relations.

#### **HIST 145 PTK STUDY TOPIC SEMINAR**

Units: 1.0 - 16-18 hours lecture. CSU, UC. (No prerequisite. Pass/No Pass)

This is a lecture series based on the Phi Theta Kappa International honor society study topic for each year. Faculty members will be invited to speak on their areas of expertise as they relate to those study topics.

#### **HIST 153 AFRICAN AMERICAN HISTORY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

The progression of the Black American's slave experience to the present. Emphasis on the struggle for social, political, and economic parity.

#### **HIST 155 WOMEN IN U.S. HISTORY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

History of women in the United States from early colonial era to the present. This course must assume some understanding of the formative events in U.S. history and will focus on the changing roles women have played in society, family, and work.

#### **HIST 157 NATIVE AMERICAN HISTORY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: HIST 117, HIST 118, and ENGL 101.0)

This is an overview of Native cultures from Mexico to the Arctic, and a history of Native peoples since European contact. It deals with native societies, the Indian Wars, and contemporary issues. This course begins with an overview of methodological issues and proceeds through ethnographic information on the major regions of the North American supercontinent to a discussion of the era of European contact and contemporary issues.



## **HONORS**

The honors program offers enriching experiences to improve the quality of education for academically talented students who are striving for advanced academic achievement. Honors courses are more extensive and intensive in terms of research, depth of discussion and material covered. They are designed to promote a deeper, more comprehensive understanding of the material and the connectedness of disciplines while preparing students to excel later in advanced degree preparation. They offer additional opportunities for independent and focused study, and more individualized interdisciplinary, experimental, enhanced and collaborative learning experiences. Students participate in advanced seminars and intensive research and course work. Students should be self-motivated and must have demonstrated superior academic achievement in either high school or college.

Victor Valley College is a member of the Honors Transfer Council of California. This membership can provide students with numerous scholarship and financial aid opportunities, as well as possible transfer advantages to participating universities, such as UCLA, UCR, UCI, Whitman College and many others.

For enrollment criteria or any other information contact the Honors Coordinator at (760) 245-4271, ext. 2691.

## **HONORS COURSES**

#### **BIOL H100 HONORS GENERAL BIOLOGY**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

This is an introductory course for honors students emphasizing the scientific method, analysis of scientific data, the use of scientific units, cellular biology, genetics and heredity, classification and systematics, evolution, ecology, environmental issues, and current topics in biology. The laboratory complements the lecture topics via direct experimentation, simulations, and video, including a survey of Earth's biological diversity. Specific topics will be emphasized through the use of reading assignments and the preparation of a short research paper.

#### **CHEM H100 HONORS INTRODUCTORY CHEMISTRY**

Units: 6.0 - 64-72 hours lecture and 96-108 hours laboratory. CSU, UC.

A foundation in the fundamental concepts, theories, and methodologies of Introductory Chemistry is highly recommended. Critical thinking and analytical skills will be used to develop problem-solving strategies used in Chemistry. Emphasis will be on the use of communication and information technologies in the analysis and presentation of experimental data.

**CHEM H206 HONORS INTRODUCTORY CHEMISTRY II: ORGANIC CHEMISTRY**

Units: 5.0 - 64-72 hours lecture and 96-108 hours laboratory. CSU, UC

Modern organic synthesis, biotech, and pharmaceutical laboratories assess the feasibility of their proposed syntheses using computer generated models of target compounds. Current trends in modern research indicate a growing dependence on computational chemistry. This program will extend topics covered in CHEM 106 into basic concepts of computational chemistry. Emphasis will be on molecular modeling techniques, acquisition, processing, and presentation of experimental data.

**CHEM H207 HONORS INTRODUCTORY CHEMISTRY III: BIOCHEMISTRY**

Units: 5.0 - 64-72 hours lecture and 96-108 hours laboratory. CSU, UC.

The application of molecular modeling techniques to biological macromolecules. Computer generated force-fields and molecular graphics will be used to study structural geometry, potential energy surfaces, energy gradients, bond energies, and bond angles. Confirmation analyses will be performed to gain a practical understanding of the advantages and limitation of molecular modeling.

**ENGL H101 HONORS COMPOSITION AND READING**

Units: 4.0 - 64-72 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 50 with a grade of "C" or better.)

This course emphasizes the basic approaches to writing that will be necessary in college: research, textual analysis, critical applications and discussion of texts and ideas. The class demands greater depth of research and discussion, and emphasizes the seminar approach to learning.

**ENGL H102 HONORS COMPOSITION AND LITERATURE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 101.0 with a grade of "C" or better)

Further training in writing and introduction to the short story, novel, poetry, and drama. The honors seminar will deepen students' insights into literature and into the process of writing about it.

**ENGL H104 HONORS CRITICAL THINKING AND COMPOSITION**

Units: 3.0 - 48-54 hours lecture. CSU, UC (Prerequisite: completion of ENGL 101.0 with a grade of "C" or better or eligibility as determined by VVC assessment.)

This course is designed to develop the student's critical thinking, reading, and writing skills beyond the level achieved in ENGL 101.0.

**HIST H115 HONORS HISTORY OF CALIFORNIA**

Units: 3.0 - 48-54 hours lecture. CSU, UC (Prerequisite: Eligibility for ENGL 101.0/H101. Recommended preparation: HIST 50.)

A comprehensive study of California history, including native culture, the Mission era, the Ranchos, the Mexican War and the US conquest, and the era of US control. Economic, environmental and social issues are identified and discussed.

**HIST H117 HONORS HISTORY OF THE UNITED STATES TO 1876**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation.) (No prerequisite. HIST 50 recommended.)

American civilization, primarily focusing on the British colonies and the US, through the Civil War era. Native American, African and European antecedents will form part of the class. Students will analyze the colonial and revolutionary periods, as well as the Declaration of Independence and the Constitution in the formation of a new nation. The class examines gender and race issues in light of nation building and American culture. Honors classes will take students further into the course material with additional reading, in-class debates and graded roundtable discussion, and a term paper which involved both primary and secondary sources.

**HIST H118 HONORS HISTORY OF THE UNITED STATES FROM 1876**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite. Recommended preparation: ENGL 50 and HIST 50)

A survey of American history since reconstruction after the Civil War with emphasis upon those social, political, and economic factors which most shaped modern America. The honors format will be implemented, including a greater amount of outside reading material and more class time devoted to discussion of that material -- with consequently much less actual treatment of the basic textbook, which honors students will be expected to grasp adequately on their own. Particular attention will be focused on the varying viewpoints and interpretations of the important historic questions.

**MATH H105 HONORS COLLEGE ALGEBRA**

Units: 4.0 - 64-72 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

A math course for the well-prepared student. Honors MATH 105 will include the study of exponents and radicals, theory of quadratic equations, simultaneous

quadratic equations, complex numbers, equations of higher degree, inequalities, logarithmic and exponential equations, binomial theorem, matrices and determinants, partial fractions, sequences and series.

### **MATH H120 HONORS INTRODUCTION TO STATISTICS**

Units: 4.0 – 64-72 hours lecture. CSU, UC (Prerequisite: MATH 90 with a grade of 'C' or better).

Basic statistical techniques, design and analysis for both parametric and non-parametric data are included. Descriptive statistics are included. Graphing techniques of illustrating the data are covered. Probability is covered. Inferential statistics included are estimation and hypothesis testing, chi-square, analysis of variance, and regression. Applications are drawn from a variety of fields. In addition, the Honors component will include the design of surveys, probability testing, and a research project.

### **MATH H226 HONORS ANALYTIC GEOMETRY AND CALCULUS**

Units: 5.0 - 80-90 hours lecture. CSU, UC. (UC Credit Limitation) (Prerequisite: MATH 104 and 105 completed with a grade of 'C' or better.)

As an introduction to the calculus of single variables, students will develop the concept of limit, apply limits to functions to determine if they are continuous, and find the derivative and determine integrals. Students will study the properties of the derivative and integral, their relationship to each other given by the Fundamental Theorem of Calculus and some applications to the real world. In addition, the honors component will include reading proofs and writing proofs.

### **MATH H227 HONORS ANALYTIC GEOMETRY AND CALCULUS**

Units: 5.0 - 80-90 hours lecture. CSU, UC (Prerequisite: MATH 226 with a grade of "C" or better.)

The calculus of logarithmic, exponential, trigonometric and hyperbolic functions, integration techniques, L'Hopital's Rule, improper integrals, infinite series, conic sections, parametric equations, and polar coordinates. In addition, the honors component will include reading proofs, writing complete proofs from sketches of proofs and applying techniques learned to real-life problems.

### **MATH H228 HONORS ANALYTIC GEOMETRY AND CALCULUS**

Units: 5.0 - 80-90 hours lecture. CSU, UC (Prerequisite: Enrollment in Honors course requires acceptance into the Honors Program or prior approval from the instructor; MATH 227 with a grade of "C" or better.)

Vectors and the geometry of space, vector-valued functions, the calculus of functions of several variables, multiple integration, Green's Theorem, divergence theorem, Stoke's Theorem, and applications. In addition, the honors component will include reading proofs, writing complete proofs from sketches of proofs and apply techniques learned to real-life problems.

### **PHYS H204 HONORS ENGINEERING PHYSICS (LIGHT AND MODERN PHYSICS)**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 203)

The nature and propagation of light, reflection and refraction, interference, diffraction, gratings and spectra, polarization, elements of quantum physics, waves and particles.

### **POLS H102 HONORS AMERICAN GOVERNMENT AND POLITICS**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

Examines the workings of our complex system of American government, including national, California state, and local levels (with emphasis on the national level). This survey will focus on the historical and contemporary development of our Constitution, political institutions, citizen participation, politics, and policies. Critical analysis of classical and contemporary scholarly texts and political oratory will be used extensively to examine the American political experience.

### **PSYC H101 HONORS INTRODUCTORY PSYCHOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC (No prerequisite. Recommended preparation: Eligibility for ENGL 101.0.)

This course provides instruction in the nature of human behavior and a consideration of theories and principles pertaining to the topics of research design and experimentation, perception, emotions and motivation, personality, social psychology, psychopathology, human development, learning, cognition and memory. It includes essential features of the biological and neurological basis of behavior.

### **PSYC H110 HONORS DEVELOPMENT PSYCHOLOGY**

Units: 4.0 - 64-72 hours lecture. CSU Offered Fall, Spring, Summer. (No prerequisite. Recommended preparation: Eligibility for ENGL 101.0; satisfactory completion of PSYC 101.)

This course includes the theories, methods, and research findings regarding biosocial, cognitive, and psychosocial development of the individual from conception through adulthood, including death, dying, and bereavement.

### INDEPENDENT STUDY

#### IND STUDY 129-149-99 INDEPENDENT STUDY

Units : 1.0-3.0 - (Prerequisite: Formulation of a written statement of purpose acceptable to the instructor and demonstration of sufficient background and skill to undertake the project)

Independent Study has been designed to provide students with an opportunity for Individual study, research, or other projects under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and/or departmental recommendation. Designed to provide an opportunity for qualified students to do individual study in a selected area of a subject field. The student may take up to a maximum of six units of Independent Study course work in a particular discipline. The Instructor is responsible for providing advice and guidance as required, and for evaluating student performance. Instructors providing Independent Study opportunities do so, on a voluntary basis.

Units are awarded according to the following formula of time committed to the course:

1 unit	54 hours per semester
2 units	108 hours per semester
3 units	162 hours per semester

CSU may limit the number of Independent Study units accepted.

UC maximum credit allowed: three and one-third semester credits per term, six units total, in any or all appropriate subject areas combined. Granting of course credit contingent upon an evaluation of the course outline by a UC campus.

#### CHECK LIST AND PROCEDURE:

- Proposed Independent Study Course has an approved course outline that is in compliance with Title V regulations.
- Discuss proposed Independent Study with Instructor. (Instructor must approve).
- Complete Independent Study contract and summary form for the course. (Available at the Division Dean's office).
- Attach a course syllabus to contract, obtain instructor signature and forward to appropriate Dean for signature.
- Dean's office will forward completed application package to the VP of Instruction for approval.

- Office of Instruction will provide a section number upon VPI approval of completed application and syllabus.
- If the contract is cancelled, the student must drop the class following standard drop procedures and dates.
- A copy of the contract must remain in the Instructor's files with all materials justifying the award of grade and completion of units for audit purposes.

### JOURNALISM

Journalism offers the interest and challenges of investigating and reporting current events and topics of interest. The discipline touches on every aspect of human affairs with the opportunity to specialize in areas such as politics, sports, economics, and international affairs. Journalistic skills demand good writing ability, creativity, curiosity, and commitment to exacting professional standards. While one typically thinks of journalists working for a newspaper, many excellent employment opportunities are offered with popular magazines, professional journals, business and industry newsletters, government agencies, and publishing houses.

#### Career Opportunities

Advertising Agency Executive  
Community Relations Specialist  
Copy Writer  
Journalism  
Promotions Manager  
Public Information Officer  
Publicity Director  
Reporter  
Television News Producer

#### Degrees and Certificates Awarded

No Certificates awarded

### JOURNALISM COURSES

#### JOUR 106 INTRODUCTION TO PHOTO JOURNALISM

Units: 2.0 - 96-108 hours laboratory. CSU. (No prerequisite) This course may be taken two times.

This lab class is an introduction to the basics of photojournalism including basic photography skills, digital imaging, processing, composition, and production of written news stories. See cross-listing for Photography 106.

#### JOUR 108 FUNDAMENTALS OF JOURNALISM

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: ENGL 50 with a grade of "C" or better.)

The student will learn basics of news and feature reporting and writing while producing the RamPage

student newspaper. Topics covered: interviewing techniques, legal/ethical issues, writing strategies. Students produce the campus newspaper using computers and learn about career opportunities.

### **JOUR 108L JOURNALISM LAB**

Units: 1.0-3.0 - 48-54 hours laboratory. CSU.  
(Prerequisite: JOUR 108 with a grade of "C" or better.)  
This course may be taken four times.

This is a laboratory-only class which requires prior completion of Journalism 108. The student will learn advanced techniques of writing and editing. The student will learn and practice the basics of desktop publishing and increase their overall and increase their overall responsibility in production and distribution of the Victor Valley College student newspaper.

### **JOUR 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU

### **JOUR 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

### **JOUR 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU



## **LATIN COURSES**

### **LATN 101 ELEMENTARY LATIN**

Units: 5.0 - 80-90 hours lecture and 16-18 hours laboratory. CSU, UC. (No prerequisite. Grade option.)

This course introduces the Latin language and the culture and history of the ancient Roman people. Students complete intensive work on grammar and vocabulary. Special emphasis is given to translating Latin fluently and accurately into English.

### **LATN 102 ELEMENTARY LATIN**

Units: 5.0 - 80-90 hours lecture and 16-18 hours laboratory. CSU, UC. (Prerequisite: LATN 101. Grade option.)

This course is a continuation of Latin 101. Students study the Latin language and the culture of the ancient Roman people. Students complete intensive work on grammar and vocabulary and apply this knowledge to passages from ancient authors, including Julius Caesar's Gallic Wars. Special emphasis is given to translating Latin fluently and accurately into English.

## **LAW**

There is no single "prelaw" major. Research has revealed that success in law school is based more on one's ability to grasp and solve difficult intellectual problems and to employ disciplined work habits. In choosing a major, one should choose a course of study that will give broad cultural background and include intensive research. Most law students major in Business Administration, Economics, English, Liberal Studies, History, Philosophy, Political Science, or Sociology, although law schools accept any major.

Most American Bar Association (ABA) accredited law schools require a bachelor's degree and certain scores on the Law School Admission Test (LSAT) for entrance into an intensive three-year program. Students who complete law school earn the Juris Doctor (J.D.) degree and can practice law in the state of California upon passage of the California bar exam. Some law schools require only an associate degree for admission and often require completion of a four-year program.

The following sampling of ABA-accredited law schools in California require a bachelor's degree and a high score on the LSAT:

- Pepperdine University
- Stanford University
- University of California  
Berkeley, Davis, Los Angeles
- University of La Verne
- University of Southern California

**LIBERAL ARTS**

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts

**Associate Degree**

The Associate degree in Liberal Arts is designed for students who wish to have a broad knowledge of the liberal arts and sciences plus additional coursework in an "Area of Emphasis." Within this major, students who plan on transferring to a university can typically satisfy both their general education requirements as well as any pre-major requirements for transfer. Consult with a counselor for information regarding your intended major and the specific college or university of your choice. Visit [www.assist.org](http://www.assist.org) for more information.

**Requirements for the AA in Liberal Arts**

Minimum units:

**1. Choose one General Education Option 18**

- A. AA degree only**, without completing transfer requirements – 18 units minimum, including GE and proficiency requirements
- B. California State University GE requirements**  
39 units minimum for CSU GE certification
- C. IGETC (for either CSU or UC)**  
34 units minimum for IGETC certification

**2. Select an "Area of Emphasis" 18**

Complete 18 units from one of the Areas shown below. Two or more courses in one discipline are required.

**3. Choose electives to bring the total to 60 units 3-24**  
(These courses should be transferable if you select Option B or C above.)

**4. All other graduation requirements**

**Total: 60**

All classes listed below transfer to the CSU system; courses in **bold** also transfer to the UC system.

**AREAS OF EMPHASIS**

**MATHEMATICS & SCIENCE: 4902.00**

These courses emphasize the natural sciences which examine the physical universe, its life forms and its natural phenomena. Courses in Math emphasize the development of mathematical and quantitative reasoning skills beyond the level of intermediate

algebra. Students will be able to demonstrate an understanding of the methodologies of science as investigative tools. Students will also examine the influence that the acquisition of scientific knowledge has on the development of the world's civilization.

**To complete this emphasis, students must take at least one course in Mathematics and at least one course in Science.**

- ANTH: 101 + 101L**
- ASTR: 101**
- BIOL: 100/H100, 104, 107, 114, 118, 201, 202, 203, 211, 221, 231**
- CHEM: 100/H100, 114, 201, 202, 206/H206, 207/H207, 255, 281, 282**
- GEOG: 101 + 101L, 120**
- GEO: 101, 102, 103, 110**
- MATH: 104, 105/H105, 119, 120/H120, 132, 226, 227, 228, 231, 270**
- OCEA: 101**
- PHYS: 100, 201, 202, 203, 204, 221, 222**
- PSCI: 101**

**ARTS & HUMANITIES: 4903.00**

These courses emphasize the study of cultural, literary, and humanistic activities and artistic expression. Students will evaluate and interpret the ways in which people through the ages in different cultures have responded to themselves and to the world around them in artistic and cultural creation. Students will also learn to value aesthetic understanding and incorporate these concepts when constructing value judgments.

- ANTH: 106**
- ART: 101, 102, 103, 104, 105, 106, 107, 108, 109, 112, 113, 120, 122, 125, 150**
- CMST: 105 (Intercultural)**
- ENGL: 102/H102, 116\*, 162, 210, 211, 220, 225, 230, 231, 232, 235, 240, 241, 245, 246, 247**
- FOREIGN LANGUAGES: CMST (ASL) 122, 123, 124, 125; FREN: 101, 102, 103, 104, GERM: 101, 102, 103, 104, LATIN: 101, 102, SPAN: 101, 102, 103, 104**
- HIST: 103, 104, 115, 117/H117, 118/H118, 130, 131, 153, 155, 157**
- MUSIC: 100, 101, 102, 103, 115, 117, 118, 131, 202, 204**
- PE: 103 (Dance)**
- PHIL: 101, 108, 114\*, 117, 120, 121**
- POLS: 114\***
- RLST: 101, 105, 106, 110, 111, 115, 117**
- TA: 101, 102, 104, 107, 110, 116\*, 117**

**SOCIAL & BEHAVIORAL SCIENCES: 4903.30**

These courses emphasize the perspectives, concepts, theories and methodologies of the social and behavioral sciences. Students will learn about themselves and others as members of a larger society. Topics and discussion to stimulate critical thinking about ways people have acted in response to their societies will allow students to evaluate how societies and social subgroups operate.

**AGNR:** 175  
**AJ:** 101  
**ANTH:** 101, 102, 103, 105, 106  
**CHDV:** 100, 106  
**CMST:** 105 (Intercultural)  
**ECON:** 101, 102  
**GEOG:** 101, 102, 103, 104  
**HIST:** 103, 104, 115, 117/H117, 118/H118, 130, 131, 153, 155, 157  
**PHIL:** 114\*  
**POLS:** 101, 102/H102, 103, 110/H110, 111, 112, 113, 114\*  
**PSYC:** 101, H101, 103, 110/H110, 111, 116, 121, 130, 204, 213  
**RLST:** 105, 106, 110, 113, 115  
**SOC:** 101, 102, 103, 107

\*Cross-listed courses: ENGL 116 is the same as TA 116; PHIL 114 is the same as POLS 114

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**LIBERAL STUDIES**  
See "Education"

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**MATH/SCIENCE**

**Degrees and Certificates Awarded**

Associate in Science, Math/Science

**Associate Degree**

To earn an Associate in Science degree with a major in Math/Science, complete a minimum of 18 units from any of the following courses:

■ **MATHEMATICS**

**ELCT** 57, 58, 59, 60

**MATH** 104, 105/H105, 119, 120/H120, 129, 132, 226/H226, 227/H227, 228/H228, 231, 270

■ **LIFE SCIENCES**

**ANTH** 101, 101L

**BIOL** 70, 100/H100, 104, 107, 113, 114, 118, 120, 126, 127, 128, 129, 149, 201, 202, 203, 211, 215, 221, 231, 232

**HLTH** 102

■ **PHYSICAL SCIENCES**

**ASTR** 101

**CHEM** 100/H100, 114, 120\*, 128, 129, 201, 202, 206/H206, 207/H207, 255, 281, 282

**GEOG** 101, 101L, 103

**GEOG** 101, 102, 103, 109, 110, 112, 128, 129

**OCEA** 101

**PSCI** 101, 128

**PHYS** 100, 128, 129, 201, 202, 203, 204, 221, 222

**RMGT** 120\*

Cross-listed classes: CHEM 120 and RMGT 120 are the same class.

**Transfer**

The Associate in Science degree in Math/Science is often a degree earned by students who are pursuing a bachelor's degree in transfer majors such as Biology, Chemistry, Engineering, Environmental Studies, Geology, Mathematics, and Physics. To explore a bachelor's degree in these fields, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

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**MATHEMATICS**

Mathematics is a rapidly expanding, dynamic discipline which has contributed to recent advances in astronomy, biology, chemistry, engineering, medicine and physics. Mathematics is truly becoming the necessary language of a wide spectrum of knowledge.

The mathematics program is designed to accept students at many levels of mathematical maturity and enable them to gain the mathematical knowledge necessary for them to achieve their goals.

**Career Opportunities**

An undergraduate degree in mathematics can lead to a variety of jobs in business, industry, government, and teaching. Mathematicians are employed by companies in communication, computers, energy and finance.

**Faculty****Full Time**

Bob Carlson  
Mary Lynn Doan  
Joe Estephan  
Patrick Malone  
Pat Mauch  
Arda Melkonian  
Dave Moser  
Said Ngobi  
Jeff Redona  
Jeff Ridge  
Stephen Toner  
Anh Weis

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts  
Associate in Science, Math/Science

**Certificate Program**

No certificates awarded.

**Associate Degree**

Mathematics courses may be used to fulfill requirements for an Associate in Science degree with a major in Math/Science; see Math/Science for degree requirements for this major. Courses may also be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major. MATH 138 (Cooperative Education) may be used for elective credit, but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**

*Mathematics major*

■ **University of California, Riverside**

*Mathematics major*

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## MATHEMATICS COURSES

**MATH 10 BASIC MATHEMATICS SKILLS**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite)

This course covers the basic operations applied to whole numbers, fractions (including mixed numbers) and decimals. Prime factorization, least common

multiple, ratio and proportion, similar triangles, averages; graphs and tables, square roots, the Pythagorean theorem, measurement, operations on signed-numbers and solutions of simple linear equations are also covered.

**MATH 12 PRE-ALGEBRA**

Units: 3.0 - 48-54 hours lecture. This course will not apply to the Associate Degree. (Prerequisite: MATH 10 with a grade of 'C' or better or eligibility as determined by VVC assessment.)

This course reviews fractions, decimals and integers with a strong emphasis on solving equations and problem solving in order to prepare students for Introductory Algebra. Ratios and proportions are also covered, as well as an introduction to graphing linear equations, working with polynomials, and factoring.

**MATH 30 MATHEMATICS FOR HEALTH SCIENCES**

Units: 4.0 - 64-72 hours lecture. This course will not apply to the Associate Degree. (No prerequisite.)

Review of fractions, decimals, whole numbers and percentages. Introduction to the apothecary, metric and household systems of measurement; applications involving oral, intravenous and intramuscular medication administration; system conversions; respiratory care calculations.

**MATH 50 ELEMENTARY ALGEBRA**

Units: 4.0 - 64-72 hours lecture. (Prerequisite: MATH 10 or MATH 12 with a grade of 'C' or better or eligibility as determined by VVC assessment. )

This course covers a review of arithmetic operations with whole, decimal, fractional and signed numbers, exponential notations, percentages, and order of operations. Algebraic expressions, solving and graphing linear equations and inequalities, polynomial operations and polynomial factoring, rational and radical expressions and equations, quadratic equations and solutions to quadratic equations are also covered.

**MATH 50L LABORATORY-ENHANCED STUDY FOR MATH 50**

Units: 1.0 - 8-9 hours lecture and 16-18 hours individualized instruction. (Prerequisites: completion of MATH 10 with a 'C' or better, or Assessment Placement, and referral by Student Support Services. Pass/No Pass)

A laboratory enhanced study concurrent with Math 50 for students participating in the Student Support Services program. A practical course supplementing instruction in signed number arithmetic, square roots, order of operations, algebraic expressions, solving



equations, factoring, graphs of linear equations and solving systems of equations.

### **MATH 60 GEOMETRY**

Units: 4.0 -64-72 hours lecture. (Prerequisite: MATH 50 and ENGL 50 with a grade of 'C' or better, or eligibility as determined by VVC assessment. Grade Option)

This course covers Euclidean plane geometry and the development of logical thinking; it also develops visualization skills including congruence, similarity, parallel lines, circle properties, and constructions.

### **MATH 70 MATH EXPERIENCES FOR CHILDREN K-8**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite)

This course emphasizes the development of explorations in mathematics appropriate for the school-age child. The course covers the sequence of topic acquisition, motivating concepts, disguising repetition, project development, group appropriate activities, evaluation techniques and the building of mathematical materials that support discovery.

### **MATH 71 GUIDED DISCOVERIES PRACTICUM**

Units: 2.0 -96-108 hours laboratory. (No prerequisite. Grade Option) This course may be taken four times.

This course is a laboratory course that provides opportunity to those interested in teaching elementary school, or being a teacher's aide in mathematics, to gain experience preparing and presenting guided experiences for students of elementary age.

### **MATH 90 INTERMEDIATE ALGEBRA**

Units: 4.0 - 64-72 hours lecture. (Prerequisite: MATH 50 with a grade of 'C' or better or eligibility as determined by VVC assessment.)

This course is designed to serve as a preparation for the study of College Algebra, Statistics, Trigonometry and other college mathematics courses. Topics include a review of the real number system, an introduction to imaginary and complex numbers, the solution of first degree, quadratic and systems of equations, polynomials, rational expressions, exponents and radicals, graphs of functions (both linear and nonlinear) and of relations, and exponential and logarithmic functions.

### **MATH 104 TRIGONOMETRY**

Units: 4.0 - 64-72 hours lecture. CSU. (Prerequisite: MATH 90 with a grade of 'C' or better.)

Topics for this preparatory course for calculus include trigonometric functions and equations, solutions of both

right and oblique triangles, trigonometric forms of complex numbers and De Moivre's Theorem. Course content also includes verification of trigonometric identities, inverse trigonometric functions, half and multiple angles, vectors and their applications, parametric equations, polar coordinates and polar equations.

### **MATH 105 COLLEGE ALGEBRA**

Units: 4.0 - 64-72 hours lecture. CSU, UC (UC credit limitation). (Prerequisite: MATH 90 with a grade of 'C' or better or eligibility as determined by VVC assessment.)

The course offers a review of real numbers, real number exponents, and factoring polynomials. The course also covers equations and inequalities, solutions to systems of equations and inequalities, solutions to equations and inequalities involving absolute value, graphing relations and functions, matrices, determinants of matrices, and matrix algebra. Complex numbers, the real and complex zeros of polynomials, the zeros of exponential, rational and radical functions, the conic sections, sequences, mathematical induction and the binomial theorem are also covered.

### **MATH H105 HONORS COLLEGE ALGEBRA**

Units: 4.0 - 64-72 hours lecture. CSU, UC (UC credit limitation). (Prerequisite: MATH 90 with a grade of 'C' or better or eligibility as determined by VVC assessment.)

This course covers all the topics of the regular MATH 105 course, but the topics are covered in greater depth. Exponents and radicals, theory of quadratic equations, simultaneous quadratic equations, complex numbers, equations of higher degree, inequalities, logarithmic and exponential equations, binomial theorem, matrices and determinants, partial fractions, sequences and series.

### **MATH 119 FINITE MATHEMATICS**

Units: 3.0 - 48-54 hours lecture. CSU. (Prerequisite: MATH 90 with a grade of 'C' or better.)

This course covers linear functions and modeling, matrix operations (addition, subtraction, multiplication and inverses), systems of linear equations, introductory linear programming, mathematics of finance, counting techniques. Probability theory, descriptive statistics and distributions, and Markov chains are also covered.

### **MATH 120 INTRODUCTION TO STATISTICS**

Units: 4.0 - 64-72 hours lecture. CSU, UC. (Prerequisite: MATH 90 with a grade of 'C' or better.)

This course covers basic statistical techniques including design and analysis for both parametric and non-parametric data. Descriptive statistics included are measures of central tendency and measures of dispersion. Graphical techniques of illustrating the data

are covered. Probability and its application to inferential procedures are covered. Inferential statistics included are estimation and hypothesis testing, chi-square, analysis of variance and regression. Applications are drawn from a variety of fields.

### **MATH H120 HONORS INTRODUCTION TO STATISTICS**

Units: 4.0 - 64-72 hours lecture. CSU, UC. (Prerequisite: MATH 90 with a grade of 'C' or better.)

Basic statistical techniques, design and analysis for both parametric and non-parametric data are included. Descriptive statistics are included. Graphing techniques of illustrating the data are covered. Probability is covered. Inferential statistics included are estimation and hypothesis testing, chi-square, analysis of variance, and regression. Applications are drawn from a variety of fields. In addition, the Honors component will include the design of surveys, probability testing, and a research project.

### **MATH 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC.

### **MATH 129 INDEPENDENT STUDY**

See Independent Study listing ( 1-3 units). CSU

### **MATH 132 THE IDEAS OF MATH**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: MATH 90 with a grade of 'C' or better or eligibility as determined by VVC assessment.)

Sets and their application to permutations, combinations, binomial theorem, correspondence, countability, finite probability measures, and expectation with optional topics in geometry (Euclidean and non-Euclidean, tessellations and fractals) or beginning calculus (derivative and antiderivative of simple polynomial functions.

### **MATH 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

### **MATH 216 BUSINESS CALCULUS**

Units: 4.0 - 64-72 hours lecture. CSU. (Prerequisite: MATH 105 or MATH H105 or MATH 119.)

This course is designed for students majoring in Business and Economics. Topics covered include functions and relations, limits and continuity, differentiation, applications of differentiation, integration, and applications of integration. NOTE: MATH 216 - Business Calculus and MATH 226 - Analytic Geometry and Calculus are not the same class.

### **MATH 226 ANALYTIC GEOMETRY AND CALCULUS**

Units: 5.0 - 80-90 hours lecture. CSU, UC. (Prerequisites: Both MATH 104 and MATH 105 or MATH H105 with a grade of 'C' or better.)

This class offers an introduction to the calculus of single variables. Topics covered include limits, using limits of functions to determine continuity, finding derivatives and integrals of functions, basic properties of derivatives and integrals, the relationship between derivatives and integrals as given by the Fundamental Theorem of Calculus, and applications.

### **MATH H226 HONORS ANALYTIC GEOMETRY AND CALCULUS**

Units: 5.0 - 80-90 hours lecture. CSU, UC. (UC Credit Limitation) (Prerequisite: MATH 104 and MATH 105 or MATH H105 completed with a grade of 'C' or better.)

As an introduction to the calculus of single variables, students will develop the concept of limit, apply limits to functions to determine if they are continuous, find the derivative and determine integrals. Students will study the properties of the derivative and integral, their relationship to each other given by the Fundamental Theorem of Calculus. In addition, the honors component will include reading proofs and writing simple proofs.

### **MATH 227 ANALYTIC GEOMETRY AND CALCULUS**

Units: 5.0 - 80-90 hours lecture. CSU, UC. (Prerequisite: MATH 226 or MATH H226 with a grade of 'C' or better.)

This class covers the calculus of logarithmic, exponential trigonometric and hyperbolic functions, integration techniques, L'Hopital's Rule, improper integrals, infinite series, conic sections, parametric equations and polar coordinates.

### **MATH H227 HONORS ANALYTIC GEOMETRY AND CALCULUS**

Units: 5.0 - 80-90 hours lecture. CSU, UC (UC credit limitation) (Prerequisite: MATH 226 or MATH H226 with a grade of 'C' or better.)

The calculus of logarithmic, exponential, trigonometric and hyperbolic functions, integration techniques, L'Hopital's Rule, improper integrals, infinite series, conic sections, parametric equations, and polar coordinates. In addition, the honors component will include reading proofs, writing complete proofs from sketches of proofs and applying techniques learned to real-life problems.

### **MATH 228 ANALYTIC GEOMETRY AND CALCULUS**

Units: 5.0 - 80-90 hours lecture. CSU, UC. (Prerequisite: MATH 227 or MATH H227 with a grade of 'C' or better.)

This course covers vectors and the geometry of space, vector-valued functions, the calculus of functions as

several variables, multiple integration, Green's Theorem, divergence theorem, Stoke's Theorem and applications.

### **MATH H228 HONORS ANALYTIC GEOMETRY AND CALCULUS**

Units: 5.0 - 80-90 hours lecture. CSU, UC (Prerequisite: Enrollment in Honors course requires acceptance into the Honors Program or prior approval from the instructor; MATH 227 or MATH H227 with a grade of "C" or better.)

Vectors and the geometry of space, vector-valued functions, the calculus of functions of several variables, multiple integration, Green's Theorem, divergence theorem, Stoke's Theorem, and applications. In addition, the honors component will include reading proofs, writing complete proofs from sketches of proofs and apply techniques learned to real-life problems.

### **MATH 231 LINEAR ALGEBRA**

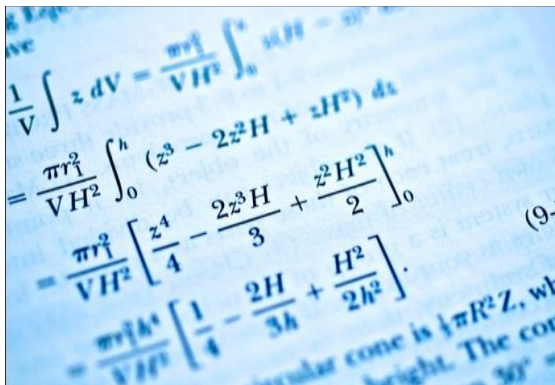
Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: MATH 105 with a grade of 'C' or better. Recommended preparation: MATH 226 or MATH H226 with a grade of 'C' or better.)

An introduction to linear algebra that compliments advanced courses in calculus. Topics include systems of linear equations, matrix operations, determinants, vectors and vector spaces, eigenvalues and eigenvectors and linear transformations. With orthogonality, inner product spaces and numerical methods if time permits.

### **MATH 270 DIFFERENTIAL EQUATIONS**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: MATH 227 or MATH H227 with a grade of 'C' or better)

This course covers elementary differential equations, solutions of first order equations, linear equations with constant coefficients, simultaneous linear systems, series solutions, the Laplace transform, and applications to physics and engineering.



## **MEDIA ARTS**

Digital Animation has rapidly become one of the fastest growing careers within the computer graphics industry. Victor Valley College's Media Arts courses are designed for individuals seeking training in advanced techniques and procedures currently used in today's workplace. Designed for both beginning and advanced students, program curriculum is geared toward individuals interested in creating video games, television commercials, product or architectural visualizations, animated logos, 3D website graphics or film-based special effects. Learning essential principles and techniques for creating professional quality work, students are immersed in simulated problem-solving situations similar to those encountered in real world production environments. Students successfully completing the program courses will possess entry-level skills that apply to a wide variety of exciting career opportunities. Three different program certificates are currently offered. The primary software package used in all Media Arts Computer Animation classes is Autodesk Softimage. Animation classes are also offered through the Computer Integrated Design and Graphics Department.

### **Career Opportunities**

3D Modeler  
Texture Artist/Painter  
Lighting Specialist  
Character Designer  
Character Animator  
Special F/X Animator  
Game Level Designer  
Storyboard Artist  
Graphic Designer

### **Degrees and Certificate Programs**

Digital Animation Technician I - SoftImage Certificate  
Digital Animation Technician I - 3ds Max Certificate  
Digital Animation Artist Certificate

### **Certificate Programs**

### **DIGITAL ANIMATION TECHNICIAN I SOFTIMAGE CERTIFICATE**

Units Required: 9.0

The SoftImage certificate is designed to offer students a detailed look at one of the Animation industry's premiere 3D packages. Students will study a variety of topics, including how to model 3D objects, creation of a realistic material, the art of camera and lighting techniques, and an introduction to advanced keyframing. In addition to completing several animation projects, students learn about both the history of Animation and the traditional principles involved in making an individual's work look both realistic and believable.

*All of the following must be completed with a grade of "C" or better.*

MERT 50	Principles of Animation	3.0
MERT 51	Intermediate Modeling and Animation with SoftImage	3.0
MERT 52	Digital Character Animation	3.0

**DIGITAL ANIMATION TECHNICIAN I 3DS MAX CERTIFICATE**

Units Required: 9.0

The 3ds Max certificate is designed to offer students a detailed look at one of the Animation industry's premiere 3D packages. The courses taken to complete the certificate provide students an opportunity to learn a variety of topics, including how to model 3D objects, how to create realistic textures and materials, the art of camera and lighting techniques, and a variety of keyframing solutions to bring their ideas to life. In addition to completing both individual and group projects, students also delve into the traditional principles of animation that serve to heighten the level of realism and believability of an individual's work.

*All of the following must be completed with a grade of "C" or better.*

CIDG 160	3ds Max Fundamentals	3.0
CIDG 260	3ds Max Advanced Modeling and Materials	3.0
CIDG 261	3ds Max Character Animation and Advanced Keyframing Techniques	3.0

**DIGITAL ANIMATION ARTIST CERTIFICATE**

Units Required: 15.0

The Digital Animation Artist certificate is designed to expand an individual's expertise in 3D Animation by requiring additional training in traditional art principles and techniques. Employers many times view an animator who possesses the ability to both draw and more thoroughly understand concepts and practices specific to traditional art painting as more well-rounded and work-ready. By earning the Digital Animation Artist certificate, students will better position themselves for employment opportunities in this fast-paced and competitive field. An Adobe Photoshop course specific to 3D Animation applications is also required to earn a certificate.

*Complete the requirements listed in both Group I and Group II*

GROUP I - Animation Track

*Choose between software package options 1 or 2.*

*All of the following must be completed with a grade of "C" or better.*

<i>Option 1: 3ds Max</i>		
CIDG 160	3ds Max Fundamentals	3.0

CIDG 260	3ds Max Advanced Modeling and Materials	3.0
CIDG 261	3ds Max Character Animation and Advanced Keyframing Techniques	3.0
MERT 56	Photoshop for Animators	3.0

*Option 2: SoftImage*

MERT 50	Principles of Animation	3.0
MERT 51	Intermediate Modeling and Animation with SoftImage	3.0
MERT 52	Digital Character Animation	3.0
MERT 56	Photoshop for Animators	3.0

GROUP II - Art Track

*Choose any ONE of the following courses.*

*Must be completed with a grade of "C" or better.*

ART 101	Survey of Art History	3.0
ART 104	Film as an Art Form	3.0
ART 112	Design I	3.0
ART 113	Design II	3.0
ART 122	Introduction to Life Drawing	3.0
ART 124	Anatomy for Life Drawing	3.0
ART 125	Drawing I	3.0
ART 141	Sculpture I	3.0

**MEDIA ARTS COURSES**

**MERT 50 PRINCIPLES OF ANIMATION**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. Recommended preparation: ART 125, ART 133, or CIS 101. Grade Option) This course may be taken four times.

Students will learn the basics of 3D modeling, how to create and apply realistic textures, lighting principles and techniques, camera types and their appropriate usage, and fundamental keyframing procedures. Other topics to be covered include storyboards, the traditional principles of animation, current industry trends and issues pertaining to rendering output for different mediums (film, video, Internet, etc.)

**MERT 51 ADVANCED MATERIALS, LIGHTING AND RENDERING WITH XSI**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: MERT 50. Grade Option) This course may be taken four times.

This course covers advanced material techniques using the rendertree, rendering with Mental Ray and advanced lighting techniques. Students will complete a combination of exercises, individual and group projects. Repetition of this course provides the opportunity for increased skill development.

**MERT 52 DIGITAL CHARACTER ANIMATION WITH SOFTIMAGE XSI**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: MERT 50. Grade Option) This course may be taken four times.

This course is an advanced study in digital character animation and feature-length digital media production. This course explores the relationships between anatomy, motion, weight, and timing through a balanced combination of exercises, individual and group projects. Repetition of this course provides the opportunity for increased skill development.

**MERT 53 ADVANCED ANIMATION/ DEMO REELS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: MERT 52. Grade Option) This course may be taken four times.

This course is an in depth look at creating an animation production with a final reel being the goal of the class. The course covers camera techniques, staging, modeling, texturing, character development, story development, plot development, storyboarding, titling, and final production using industry standards as guidelines from start to finish. Repetition of this course provides the opportunity for increased skill development.

**MERT 56 PHOTOSHOP FOR ANIMATORS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option) This course may be taken four times.

Students will learn the concepts and procedures required for creating high quality texture maps and imagery for use in 3D computer animation. Topics will include basic and advanced editing techniques, managing tone and color, layer management, optimization strategies and the use of filters. Compositing techniques will be addressed in detail. Relevant issues dealing with the pre-production process, and industry trends and analysis will also be discussed.

**MERT 74 DIGITAL VIDEO PRODUCTION**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. Recommended preparation: ART 133, CIS 101. Grade Option)

This course introduces digital video production techniques. Course topics include the operation of digital camcorders, lighting, sound equipment and post production digital editing suites, and the principles and aesthetics of film and video editing.

**MEDICAL AND HEALTH PROFESSIONS**

The programs of study in the following medical and health professions are not offered at Victor Valley College, but preparatory courses needed for transfer into these majors are offered as outlined below.

**Athletic Training**

Athletic training is a growing profession that involves evaluation, management, and rehabilitation of athletic injuries. It is also the organization and administration of athletic training programs, as well as the education and counseling of the athlete. This program of study was recently endorsed by the American Medical Association as an allied health profession.

Athletic Training programs may also be offered as an option under Kinesiology, Exercise Science, or Physical Education majors at most universities. The average GPA for students enrolling in these programs is a 3.0 GPA or better.

Common lower division courses students should complete prior to transferring to a university as an Athletic Training, Kinesiology, Exercise Science, or Physical Education major:

BIOL 211, 231; CHEM 201; PHYS 221; MATH 120; PSYC 101

For more information on athletic training or kinesiology programs, visit: [www.assist.org](http://www.assist.org) or meet with a counselor.

**Pre-Chiropractic**

Chiropractic Medicine places the emphasis on spinal manipulation and neuromuscular treatments as the means of restoration and preservation of health. Chiropractors diagnose health problems, provide care and consult with other health care providers. Prior to enrolling, applicants must have completed a minimum of 90 semester units, applicable to a bachelor's degree, with a minimum cumulative GPA of a 2.5 on a 4.0 scale.

Common lower division course requirements for chiropractic medicine:

BIOL 201, 202; CHEM 201, 202, 281, 282; PHYS 221, 222; ENGL 101, 102 or 104; PSYC 101

Highly recommended courses: BIOL 221, 231; PHYS 201; CMST 109; MATH 105

15 additional semester units from Social Sciences and/or Humanities

The following four schools are the only California colleges accredited by American Chiropractic Association:

- Cleveland Chiropractic College, Los Angeles  
[www.clevelandchiropractic.edu](http://www.clevelandchiropractic.edu)

- Life Chiropractic College-West, San Lorenzo  
[www.lifewest.edu/](http://www.lifewest.edu/)
- Southern California University of Health Sciences (formerly: Los Angeles College of Chiropractic)  
[www.scuhs.edu](http://www.scuhs.edu)
- Palmer College of Chiropractic, Sunnyvale  
[www.palmer.edu](http://www.palmer.edu)

For more information on chiropractic colleges, visit:  
[www.chiropractic.org](http://www.chiropractic.org)

### **Dental Hygiene**

Dental hygienists provide educational and clinical services for patients, including dental health education and disease prevention procedures, obtaining and recording patients' medical and dental histories, scaling and polishing teeth, recording conditions of patients' mouths and teeth, exposing and processing dental x-ray films, nutritional counseling, and applying fluoride and pit and fissure sealants for prevention of decay. Dental Hygiene is a rapidly growing profession and is emerging as a vital, highly respected component of dental health.

There are multiple California community colleges that offer an Associate of Science or Arts degree in Dental Hygiene. For more information on accredited Dental Hygiene community college programs, visit:  
<http://www.cdha.org/>.

Before admission into the Dental Hygiene program students must have graduated from an accredited secondary school, have a minimum of 60 semester units of transferable course work, rate sufficiently high on the Dental Hygiene Aptitude Test (DHAT), and complete prerequisite coursework with a cumulative GPA of 3.0 or better.

#### Common lower division course requirements for most Dental Hygiene programs:

BIOL 201, 211, 221, 231; CHEM 201, 202; ENGL 101, 102 or 104; PSYCH 101; SOC 101; CMST 109

Other courses recommended to complete 60 required units: CHEM 120, 281, Math 120.

The following four California universities offer a bachelor's degree in Dental Hygiene and are accredited by the Commission on Dental Accreditation (CODA):

- Loma Linda University  
<http://www.llu.edu/dentistry/admissions/index.page>
- University of Southern California  
<http://dentistry.usc.edu/education.aspx>
- University of the Pacific  
<http://www.pacific.edu/>

- West Coast University  
<http://www.westcoastuniversity.edu/>

A handout with all transfer requirements for a B.S. degree in Dental Hygiene from Loma Linda University is available in Counseling or can be obtained from the website above. An appointment is not necessary to receive a copy of these requirements.

For more information on Dental Hygiene programs, visit:  
[www.adha.org](http://www.adha.org)

### **Pre-Dentistry**

Dentists provide comprehensive dental treatment to patients including oral and maxillofacial surgery, endodontics, orthodontics, and restorative processes.

Because most of the applicants being admitted to dental schools possess a bachelor's degree, students are advised to integrate the dental school requirements into a program that will lead to a bachelor's degree in a major of their choice. While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to medical school. There are Dental Schools which consider 90 semester units (60 units lower division and 30 units of upper division coursework) with a very competitive grade point average (GPA). The average GPA for accepted students to U.S. dental schools is a 3.5. In addition a score sufficiently high on the Dental Admission Test (DAT) ([www.adea.org](http://www.adea.org)) is required along with course prerequisites.

#### Common lower division course requirements for dentistry schools:

BIOL 201, 202, 221; CHEM 201, 202, 206+207 or 281+282 (recommended); ENGL 101, 102 or 104; MATH 226; PHYS 221, 222; PSYC 101; CMST 109

11 units in Social Sciences/Humanities/Foreign Language. Courses from the following are highly recommended: Algebra/Calculus/Statistics, Accounting/Economics, Technical Writing, Sociology/Anthropology, Business Management, and Ceramics/Sculpture.

The following five schools offer a Doctor of Dental Surgery (DDS) and are the only California universities accredited by the Commission on Dental Accreditation (CODA):

- Loma Linda University  
[www.llu.edu/llu/dentistry](http://www.llu.edu/llu/dentistry)
- University of California, Los Angeles (UCLA)  
[www.uclasod.dent.ucla.edu/](http://www.uclasod.dent.ucla.edu/)
- University of the Pacific  
[www.dental.pacific.edu/](http://www.dental.pacific.edu/)

- University of California, San Francisco (UCSF)  
[www.dentistry/ucsf/edu/](http://www.dentistry/ucsf/edu/)
- University of Southern California (USC)  
[www.usc.edu/hsc/dental](http://www.usc.edu/hsc/dental)

A handout with all transfer requirements for a D.D.S. degree in Dentistry from Loma Linda University is available in counseling. No appointment is necessary to receive a copy of these requirements.

For more information on dentistry schools, visit:  
[www.ada.org](http://www.ada.org).

### **Pre-Medicine (MD) and Pre-Osteopathic Medicine (OD)**

Doctors of Medicine manage the diagnosis, treatment, and prevention of disease and injuries of individuals to restore them back to optimal health. Treatment may include surgery, various treatment methods, conferring with other specialists, and prescribing appropriate drugs. Physicians also research the causes, transmission, and control of diseases and other ailments.

Medicine is a highly competitive field and acceptance into medical school is based on a combination of preparatory courses completed, letters of recommendation, sufficiently high scores on the Medical College Admissions Test (MCAT), and GPA. Most students who are admitted into medical school have a bachelor's degree; therefore, a bachelor's degree is highly recommended. Since requirements for medical school places emphasis on biology and chemistry, most students choose to pursue a bachelor's degree in biology or chemistry. While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to medical schools. The average GPA for accepted students to U.S. medical schools is a 3.6.

A handout entitled "Premedical Course Preparation for California Medical School Programs" is available from the VVC Counseling department. Students should also consult school catalogs, websites, and the **Medical School Admission Requirements: U.S. and Canada, (MSAR)** published by the Association of American Medical Colleges (AAMC) for specific requirements. A copy of the MSAR is available for purchase at [www.aamc.org](http://www.aamc.org).

Common lower division course requirements for most medical schools:

BIOL 201, 202; CHEM 201, 202, 281, 282; ENGL 101, 102 or 104; MATH 226, 227; PHYS 221, 222

Highly recommended courses: CHEM 206, 207; CIS 101; SPAN 101,102; PSYC 101 or SOC 101; CMST 106 or 109

A minimum of 90 semester units, at least 20 of which must be upper division from a four-year university.

The following eight medical schools in California offer a Doctor of Medicine (MD) degree and are accredited by the Liaison Committee on Medical Education (LCME) of the American Medical Association (AMA):

- Loma Linda University  
[www.llu.edu/llu/medicine](http://www.llu.edu/llu/medicine)
- Stanford University  
[www.med.stanford.edu](http://www.med.stanford.edu)
- University of California  
Davis: [www.ucdmc.ucdavis.edu/medschool/](http://www.ucdmc.ucdavis.edu/medschool/)  
Irvine: [www.med.uci.edu](http://www.med.uci.edu)  
Los Angeles: [www.medstudent.ucla.edu](http://www.medstudent.ucla.edu)  
San Diego: <http://medicine.ucsd.edu>  
San Francisco: [www.medschool.ucsf.edu](http://www.medschool.ucsf.edu)
- University of Southern California  
[www.usc.edu/schools/medicine](http://www.usc.edu/schools/medicine)
- Western Univ. of Health Sciences  
[www.westernu.edu](http://www.westernu.edu)

For more information on medical schools, visit:  
[www.aamc.org](http://www.aamc.org)

**Nursing** – see separate section on Nursing

### **Occupational Therapy**

Occupational Therapists (OT) look at the psychological and social concerns, as well as physical factors, to assist physically disabled people relearn and adapt basic motor skills. Occupational Therapists use every day (occupational) activities as a means of helping those people achieve independence, focusing on critical daily tasks ranging from dressing to employment tasks. Most OT programs require the Graduate Record Examination (GRE) and a minimum cumulative GPA of a 3.0 or better.

Because the entrance requirements, prerequisites, and program components differ from college to college, students should consult school catalogues and websites for specific information about the programs from each college to which they plan to apply.

Common lower division course requirements for most Occupational Therapy programs:

BIOL 211, 231; PSYC 101, 110, 213; MATH 120  
Highly recommended courses: ENGL 101, 102; SOC 101 or ANTH 102; CMST 109

Additional courses in Humanities/Social Sciences may be required.

The following schools award a bachelor's degree in Occupational Therapy:

- CSU Dominguez Hills  
[www.csudh.edu](http://www.csudh.edu)
- Loma Linda University  
[www.llu.edu](http://www.llu.edu)
- San Jose State University  
[www.sjsu.edu/occupationaltherapy](http://www.sjsu.edu/occupationaltherapy)
- University of Southern California  
<http://ot.usc.edu/admissions/bs-to-ma/>

A handout with all transfer requirements for a B.S. degree in Occupational Therapy from Loma Linda University is available in the counseling department.

For more information on Occupational Therapy programs, visit: [www.aota.org](http://www.aota.org)

#### **Occupational Therapy Assistant**

Occupational Therapy Assistants (COTA) work under the guidance of occupational therapists to carry out treatment programs for many different kinds of patients. The COTA enjoys a job that uses creative, personal, and technical skills; works with people of all ages with many kinds of health problems; uses specialized job skills developed in classroom and clinical experiences; benefits from a career with excellent employment opportunities; and shares a respected position as an important member of the health care team. All colleges require a minimum GPA of 2.0 or better to apply to their COTA programs. Competitive applicants have cumulative GPAs of 2.5 or better.

Common lower division course requirements for most Occupational Therapy Assistant programs:

BIOL 211, 231

The following California colleges offer Associate degrees in Occupational Therapy Assistant:

- Santa Ana Community College  
[www.sac.edu](http://www.sac.edu)
- Grossmont Community College  
[www.grossmont.edu](http://www.grossmont.edu)
- Sacramento City College  
[www.scc.losrios.edu](http://www.scc.losrios.edu)

#### **Pre-Optometry**

Optometry is a health care profession that focuses on the prevention and remediation of disorders of the vision system. Optometrists examine, diagnose and treat eye diseases, determine appropriate prescriptions for glasses and contacts, and handle the overall eye care of a patient.

Entrance into the Doctor of Optometry degree completion of a minimum of 90 units of which 20 must be from a four-year university.

Because admission has become increasingly more difficult, having completed the equivalent of a bachelor's degree is now imperative for the two California Schools of Optometry. While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to optometry schools. Besides the bachelor's degree being important, a high score on the Optometry Admission Test (OAT) and a high GPA is recommended for preliminary screening. The average cumulative GPA for accepted students to U.S. optometry schools ranges from a 3.0 to 3.7.

Common lower division course requirements for most schools of optometry:

BIOL 201, 202, 221; CHEM 201, 202, 206 or 281; ENGL 101, 102 or 104; MATH 120, 226; PHYS 221, 222; PSYC 101, 110 or PSYC 204 or PSYC 213

University of California, Berkeley also requires the additional courses: CHEM 282; MATH 227; ENGL 245 or ENGL 246

The following California schools offer programs leading to a Doctor of Optometry (O.D.) degree:

- Southern California College of Optometry, Fullerton  
[www.scco.edu](http://www.scco.edu)
- University of California, Berkeley  
<http://optometry.berkeley.edu/>

For more information on schools of optometry, visit: [www.opted.org](http://www.opted.org)

#### **Pre-Osteopathic Medicine (also see Medicine)**

A Doctor of Osteopathic Medicine (D.O.) diagnoses and treats diseases and injuries of the human body, relying upon accepted medical and surgical modalities. The emphasis of osteopathic medicine is holistic medicine.

While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to osteopathic medical school. Entrance into the intense four-year program is based on a minimum requirement of 90 semester units or 3/4 toward a bachelor's degree, a high score on the Medical College Admissions Test (MCAT), and a high GPA. The average GPA for accepted students to U.S. osteopathic medical schools is a 3.35.

Common lower division course requirements for most osteopathic medical schools:

BIOL 201, 202; CHEM 201, 202, 281, 282; ENGL 101, 102 or 104; PHYS 221, 222; MATH 226, 227

Highly recommended courses: BIOL 221; MATH 120.



Courses in the Social Sciences, Humanities, Languages, and computer skills are also recommended: PSYC 101 or SOC 101 or ANTH 102; SPAN 101, 102; CIS 101; PHIL 101

The following California schools offer programs leading to a Doctor of Osteopathic Medicine (D.O.) degree:

- Western University of Health Science  
[www.westernu.edu](http://www.westernu.edu)
- Touro University College of Osteopathic Medicine-California  
<http://www.tu.edu/>

For more information on osteopathic medical programs, visit: [www.aacom.org](http://www.aacom.org).

### **Pre-Pharmacy**

A pharmacist compounds and dispenses prescribed medications, drugs, and other pharmaceuticals for patient care, closely following professional standards and state and federal legal requirements.

Admission to schools of pharmacy is highly competitive. Schools of Pharmacy offering the Doctor of Pharmacy generally require the completion of a minimum of 60 semester units of pre-pharmacy coursework. Most students who are admitted into pharmacy schools have a bachelor's degree; therefore, a bachelor's degree is highly recommended. Since requirements for pharmacy school places emphasis on biology and chemistry, most students choose to pursue a bachelor's degree in biology or chemistry. While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to medical school. The average GPA for accepted students to U.S. pharmacy schools ranges from 3.2 to 3.7.

### **Common lower division course requirements for most pharmacy schools:**

BIOL 201, 202, 211, 231; CHEM 201, 202, 281, 282; ECON 101 or 102; ENGL 101, 102 or 104; MATH 226, 227; PHYS 221, 222; PSYC 101 or SOC 101 or ANTH 102, CMST 109

Highly recommended courses: BIO 221; CIS 101, Foreign Language.

Depending on the school, additional courses in Humanities/Fine Arts (6-12 units) and Social/Behavioral Sciences (6-12 units) are required.

The following California colleges offer Doctor of Pharmacy (Pharm.D.) degrees:

- University of the Pacific  
[www.pacific.edu/pharmacy](http://www.pacific.edu/pharmacy)
- University of Southern California (USC)  
[www.usc.edu/schools/pharmacy/pharmd/](http://www.usc.edu/schools/pharmacy/pharmd/)

- University of California, San Francisco  
<http://pharmacy.ucsf.edu>
- Western University of Health Sciences  
[www.westernu.edu/pharmacy/pharmd\\_about.xml](http://www.westernu.edu/pharmacy/pharmd_about.xml)
- Loma Linda University  
<http://www.llu.edu/pharmacy/>

For more information on schools of pharmacy, visit: [www.aacp.org](http://www.aacp.org)

### **Pre-Physical Therapy**

Physical Therapists evaluate neuromuscular, musculoskeletal, sensory-motor, and related cardiovascular and respiratory functions of the patient. They perform and interpret tests and measurements of these functions and abilities as an aid in the treatment of the patient.

Physical Therapy is a highly competitive program. All accredited entry level physical therapy programs are at the master's level (MS or MPT) or doctorate level (DPT). Most universities offer the Doctorate of Physical Therapy (DPT) degree. Most programs require a student to have at least a 3.0 cumulative and prerequisite GPA, although the average GPA for accepted students may be higher. A bachelor's degree in a related field such as Biology, Kinesiology, and Athletic Training is strongly recommended. In addition, sufficiently high scores on the Graduate Record Examination (GRE), strong letters of recommendation, and paid or volunteer experience in a physical therapy setting are important in the selection process.

### **Common lower division course requirements for most Physical Therapy programs:**

BIOL 201, 202, 211, 231; CHEM 201, 202; ENGL 101, 102 or 104; MATH 120 or 104 or 226 (Most required Math 120 - Statistics); PHYS 221, 222; PSYC 101, 110

Highly recommended course: CHEM 281

The following California colleges offer DPT programs accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE):

- California State University  
Fresno: <http://www.csufresno.edu/gradstudies/>  
San Francisco: <http://www.sfsu.edu/>
- Azusa Pacific University  
[www.apu.edu](http://www.apu.edu)
- Chapman University  
<http://www.chapman.edu/CS/pt/>
- Loma Linda University  
[www.llu.edu](http://www.llu.edu)

- Mount St. Mary's College  
<http://www.msmc.la.edu/>
- University of California, San Francisco  
<http://www.ucsf.edu/>
- University of the Pacific  
[www.pacific.edu](http://www.pacific.edu)
- University of Southern California (USC)  
<http://pt.usc.edu/>
- Western Univ. of Health Sciences  
[www.westernu.edu](http://www.westernu.edu)

The following California college offer M.S./MPT programs accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE):

- California State University  
Long Beach: [www.csulb.edu](http://www.csulb.edu)  
Northridge: [www.csun.edu](http://www.csun.edu)  
Sacramento: <http://www.hhs.csus.edu/PT/>

A handout with all transfer requirements for a Master of Physical Therapy degree from Loma Linda is available in the Counseling Department. No appointment is necessary to receive a copy of these requirements.

For more information on physical therapy, visit:  
[www.apta.org](http://www.apta.org).

#### **Physical Therapist Assistant**

The physical therapist assistant is a skilled technical health worker who, under the supervision of a physical therapist, assists in the patients' treatment program. The extent to which the physical therapist assistant is involved in treatment depends upon the policies of the health facility, the supervising therapist, and the patient. Most colleges require a GPA of 2.5 or better.

Common lower division course requirements for most Physical Therapy Assistant programs:

BIOL 211, 231; ENGL 101; MATH 90

Additional general education and major courses are required. Please check each college's catalogue or website for specific course requirements.

The following California colleges offer associate degrees in Physical Therapist Assistant:

- Loma Linda University  
<http://www.llu.edu/pages/sahp/transfer/documents/vvc.pdf>
- Cerritos Community College  
[www.cerritos.edu/pta](http://www.cerritos.edu/pta)
- San Diego Mesa Community College  
[www.sdmesa.edu](http://www.sdmesa.edu)

- Sacramento City College  
[www.scc.losrios.edu](http://www.scc.losrios.edu)
- Ohlone Community College  
[www.ohlone.edu](http://www.ohlone.edu)
- College of the Sequoias  
[www.cos.edu](http://www.cos.edu)

A handout with all transfer requirements for an associate degree from Loma Linda University is available in the VVC Counseling Department. No appointment is necessary to obtain a copy of these requirements.

#### **Pre-Physician Assistant**

A physician assistant (PA) is a skilled health care professional who, under the supervision of a physician, performs a variety of medical, diagnostic and therapeutic services. Most physician assistants routinely elicit complete medical histories and perform comprehensive physical examinations. They treat patients with common acute problems such as infections and injuries, perform minor surgical procedures, and provide ongoing care for common chronic problems such as arthritis, hypertension and diabetes.

The usual program requires 24 months to complete. Most PA students earn a bachelor's degree, although an increasing number of PA programs award master's degrees upon completion of the program.

Upon graduation from an accredited PA program, students take an examination given by the National Commission on Certification of Physician Assistants (NCCPA) and achieve national certification by passing the exam. Certified Physician Assistants (PA-C) must be retested every six years. Admission into the PA programs requires a minimum of 60 semester units and most require a GPA of 3.0 or better. Some universities require completion of the Medical College Admissions Test (MCAT) or the Graduate Record Examination (GRE).

Common lower division course requirements for most Physician Assistant programs:

BIOL 211, 221, 231; CHEM 100, 201+202 or 281+282; ENGL 101, 102 or 104; MATH 105; PSYC 101; SOC 101 or ANTH 102; 9-12 units from humanities

Highly recommended courses: BIOL 201, 202; MATH 120; ALDH 139; CIS 101; SPAN 101, 102; CMST 109

The following universities offer master's programs in Physician Assistant (PA):

- Charles Drew University, Los Angeles  
<http://www.cdrewu.edu/>

- Loma Linda University  
[www.llu.edu](http://www.llu.edu)
- Stanford University  
<http://pcap.stanford.edu/>
- University of California, Davis  
<http://www.ucdmc.ucdavis.edu/>
- University of Southern California  
[www.usc.edu](http://www.usc.edu)
- Western Univ. of Health Sciences  
<http://prospective.westernu.edu/>

Because the requirements for each program vary slightly, students who are serious about pursuing a career as a physician assistant should consult with the catalog or website of each college/university for which they plan to apply.

For more information on Physician Assistant programs, visit: [www.aapa.org](http://www.aapa.org)

### **Pre-Podiatry**

Podiatry is a specialty in medicine and surgery. A podiatrist is concerned with the prevention, diagnosis, and treatment of diseases and disorders which affect the human foot and contiguous structures. Students must complete a minimum of 60 units before transfer with a GPA of 3.0 or better, take the Medical College Admissions Test (MCAT), and meet the following lower division course requirements for transfer:

California College of Podiatric Medicine, San Francisco Doctor of Podiatric Medicine program.

BIOL 201, 202; CHEM 201, 202, 281, 282; ENGL 101, 102 or 104; PHYS 221, 222

Highly recommended courses: BIOL 211, 221, 231  
12 elective units in Humanities/Social Sciences

For more information on Podiatry programs, visit:  
<http://www.podiatrists.org/>

### **Radiologic Technology**

The radiologic technologist (x-ray technician) is responsible for the accurate demonstration of body structures on a radiograph or other receptor. The technologist determines proper exposure factors, manipulates medical imaging equipment, evaluates the radiographic quality, and provides for patient protection and comfort.

Most radiologic technology programs are two-year programs with students earning an associate degree upon completion of the program.

Radiologic technologists may choose to train further in the areas of medical sonography, nuclear medicine

technology, radiation therapy technology, and special imaging technology.

Entrance requirements vary slightly from college to college. Students should send off for requirements for each college to which they plan to apply. Students are highly encouraged to complete the following courses before transfer into the below college/university:

### **Chaffey College**

*A.S. Radiologic Technology*

ALDH 139, BIOL 211, CHEM 100 or PHYS 100, ENGL 101 and ENGL 102, MATH 90, PSY 101 or SOC 101, CMST 109, and CIS 101.

(All courses must be completed with a grade of C or better).

### **Loma Linda University**

*A.S. Medical Radiography*

ALDH 139, BIOL 211, CHEM 100 or PHYS 100, ENGL 101 AND ENGL 102, MATH 90, PSYC 101 or SOC 101, CMST 109, CIS 101 or High School Computer. Elective units to complete course requirements may be necessary. (All courses must be completed with a grade of C or better).

A handout with all transfer requirements for an A.S. degree in Medical Radiography and a B.S. degree in Radiation Technology from Loma Linda University is available in counseling. An appointment is not necessary to receive a copy of these requirements.

For more information on Radiologic Technology, visit:  
[www.asrt.org](http://www.asrt.org).

### **Speech-Language Pathology and Audiology/Communicative Disorders**

Speech-language pathologists are concerned with evaluating and treating children and adults with communication disorders. Difficulties in the areas of speech, language, fluency, and voice are associated with a variety of disorders, including developmental delay, hearing impairment, cleft palate, cerebral palsy, stroke, and head injury. Audiologists are concerned with prevention, identification, assessment, and rehabilitation of hearing disorders. For both professions, it is important that the student have an interest in working with people.

The following California colleges offer bachelor's degrees or master's degrees in Speech Pathology and/or Audiology:

- Biola University  
<http://academics.biola.edu/communication-disorders/>
- California State University (several campuses)  
[www.assist.org](http://www.assist.org)
- Loma Linda University  
[www.llu.edu](http://www.llu.edu)

Check universities' catalogs or websites for specific course requirements.

**Sports Medicine**

The field of Sports Medicine deals with understanding the role of science in exercise and health promotion. Programs in Sports Medicine provide a sound knowledge of the scientific principles of maintaining, enhancing, and rehabilitating the body through the medium of exercise and sport.

Only a few universities offer a major in Sports Medicine or even a Sports Medicine option within a physical education or health-related degree. Pepperdine University offers one of the few B.S. degrees in Sports Medicine. To pursue a bachelor's degree, specific courses should be completed prior to transfer.

Common lower division course requirements for most Sports Medicine programs:

BIOL 211, 231; CHEM 201, 202; ENGL 101, 102; MATH 226; PHYS 221, 222

Complete general education requirements of specific university including social sciences and humanities.

The following colleges offer a bachelor's or master's degree in Sports Medicine:

- Pepperdine University  
[www.pepperdine.edu](http://www.pepperdine.edu)
- California Lutheran University  
[www.callutheran.edu](http://www.callutheran.edu)
- Vanguard University  
[www.vanguard.edu](http://www.vanguard.edu)

**Pre-Veterinary Medicine**

Veterinary medicine is the health profession that deals with the scientific knowledge and decision-making process that culminate in the diagnosis, treatment and prevention of animal diseases. The profession is concerned with enhancing the health, welfare, productivity and utility of animals as well as with the safety of animal products used by people.

Students completing a veterinary medicine program approved by the Board of Examiners in Veterinary Medicine earn a Doctorate of Veterinary Medicine (DVM).

Veterinary medicine is a highly competitive program. Acceptance to this program is based on GPA, scores on the Graduate Record Examination (GRE) or Medical College Admissions Test (MCAT) and any additional examinations, and completion of a minimum of 72 semester units from an accredited college. The average required GPA for U.S. veterinary schools varies by school, from a low 2.5 to a high 3.2. Those who receive offers for admission often have a GPA of 3.5 or better.

As with many specialized medical programs, applicants who have earned a bachelor's degree are highly desirable and more competitive in the admission process. While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to veterinary school.

Common lower division course requirements for most veterinary schools:

BIOL 201, 202, 203; CHEM 201, 202, 281, 282; ENGL 101, 102 or 104; MATH 120; PHYS 221, 222; CMST 109

Highly recommended courses: BIOL 221; CHEM 206 and 207; PSYC 101; SOC 101 or ANTH 102; SPAN 101, 102.

The following California colleges offer programs leading to a Doctor of Veterinary Medicine (D.V.M.)

- University of California, Davis  
<http://www.vetmed.ucdavis.edu/studentprograms/>
- Western Univ. of Health Sciences  
<http://www.westernu.edu/>

For more information on veterinary schools, visit: [www.aavmc.org](http://www.aavmc.org)

**Important note about programs in the health professions:**

In addition to a competitive GPA and a competitive score on specialized entrance examinations, programs in the health professions also seek the following from competitive applicants: strong letters of recommendation, volunteer or paid experience in your specialty of interest, involvement in extracurricular activities, and research (lab) experience.

For assistance, counselors are available at Victor Valley College to help students meet the requirements to health professions schools.



**MEDICAL ASSISTANT**

The Medical Assistant is a professional, multi-skilled person dedicated to assisting in patient care management. The practitioner performs administrative and clinical duties and may manage emergency situations, facilities, and/or personnel. Competence in the field also requires that a medical assistant display professionalism, communicate effectively, and provide instructions to patients.

The medical assistant program is a one-year program that is designed to prepare students to work effectively in a physician's office, medical records or business office of a clinic or a hospital. Upon completion of the required courses, the student will demonstrate proficiency in both front and back office procedures. Successful completion of the program leads to a Certificate of Achievement.

NOTE: Upon completion of ALDH 82 the student may enroll in ALDH 82-C (Clinical). On the first day of ALDH 82-C the student is required to bring to class the following:

1. Students must demonstrate physical health as determined by a history and physical examination.
2. The students must submit a current physical and meet required immunizations, titers, and have a chest X-ray and/or PPD. Also, a current American Heart Association Health Care Provider CPR Certificate, or equivalent, must be obtained and current. Criminal background checks are required in order to comply with the program and clinical agencies' contractual requirements. Per individual facility requirements, random drug testing may also be required.

**Career Opportunities**

Medical Assistant  
 Patient Account Representative  
 Receptionist  
 Medical Secretary  
 Medical Records Technician

**Faculty**

**Full Time**  
 Diego Garcia

**Degrees and Certificates Awarded**

Associate in Science, Medical Assistant  
 Medical Assistant Certificate

**Certificate Program**

**MEDICAL ASSISTANT CERTIFICATE**

Units Required: 23.5

This certificate prepares students for an entry-level position in a physician's office, clinic, or medical records.

ALDH 80	Pharmacology	3.0
ALDH 81	Medical Insurance	3.0
ALDH 82	Medical Office Procedures	3.0
ALDH 82C	Medical Office Procedures/Clinical	5.0
ALDH 91	Basic CPR	0.5
ALDH 139	Medical Terminology	3.0
BET 104	Beginning Word Processing/Typing- Word for Windows A/B/C	3.0
PSYC 110	Developmental Psychology	3.0

**Associate Degree**

To earn an Associate in Science degree with a major in Medical Assistant, complete the certificate requirements above, three additional units in Allied Health, and meet all remaining Victor Valley College graduation requirements.

**Transfer**

Not a transfer major. Some Allied Health courses transfer as Electives or fulfill subject credit requirements.

**MICROBIOLOGY**

See Biology

**MUSIC**

Music is the study of the language of sound and its effect on the minds and souls of creator, performer and listener. It is one of the few academic disciplines to deal extensively with the development of the creative side of personhood; in that sense it is one of the most wholly "human" of the humanities. The creative problem-solving skills and discipline of music studies prepare students for a wide range of life's activities and pursuits. The Music Department offers a wide range of classes, providing opportunities for transfer music majors, music for general studies students, and the opportunity for student and community musicians of all skill levels to participate in a wide variety performance ensembles.

**Career Opportunities**

Accompanist  
 Announcer  
 Composer/Arranger  
 Educator  
 Instrumentalist  
 Music Publisher  
 Music Sales Business  
 Musician  
 Private Music Teacher  
 Studio Engineer  
 Vocalist

**Faculty**

**Full Time**  
 David Graham  
 Thomas E. Miller

**Degrees and Certificates Awarded**

Associate in Arts, Fine Arts  
Associate in Arts, Liberal Arts

**Certificate Program**

No certificate awarded.

**Associate Degree**

No associate degree offered with a major in Music. Music courses may be used to fulfill requirements for an Associate in Arts degree with a major in Fine Arts. See Fine Arts for degree requirements for this major. Courses may also be used to fulfill requirements for an Associate in Arts with a major in Liberal Arts. See Liberal Arts for degree requirements for this major. MUSC 138 (Cooperative Education) may be used as Elective credit, but may not be used to fulfill major requirements.

**Transfer**

Transfer music majors are required to begin major courses at the freshman level. Music majors will take the following music courses in preparation for transfer to a four-year institution: MUSC 102, 103, 104, 105, 106, 110, 111, 202, 203, 204, 205, 206, 210, 211, and the appropriate applied music studies from MUSC 120-J. In addition, music majors must be enrolled in the appropriate performance ensemble each semester. The Music Department offers periodic workshops for transfer majors to insure that students are aware of the curriculum requirements of transfer institutions and such additional concerns as concert attendance, juries, entrance proficiency exams and scholarship and performance auditions.

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**

*Music major*

- **University of California, Riverside**

*Music major*

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## MUSIC COURSES

**MUSC 100 INTRODUCTION TO MUSIC**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

This course is a general introduction to the art of music, its nature, history, materials and vocabulary. The course examines the historical and contemporary value of music to the individual and society. Consideration will also be given to structural organizations of music composition and the characteristic styles of historical periods and important individuals.

**MUSC 101 FUNDAMENTAL OF MUSIC**

Units: 3.0 - 48-54 hours laboratory. CSU, UC. (No prerequisite)

A beginning study of the basic elements of music, including pitch and rhythm recognition, key signatures, intervals, time signatures, and major and minor scales and simple triads. Useful to those wishing to learn to sight read or play an instrument, and for those who wish to write music.

**MUSC 102 MUSIC THEORY DIATONIC PRACTICE, PART I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: MUSC 101 or equivalent information as demonstrated by pretest; concurrent enrollment in MUSC 104)

Comprehensive theory musicianship study centering on basic four part diatonic harmonic practices. Use of triads in root position in all major and minor modes, principles of voice leading including doubling, spacing, voice ranges, part crossings, basic harmonic progression, and melodic construction. Emphasis on written and aural analysis, and creative application of concepts to musical composition. Stresses programmed instruction supported by computer and electronic teaching aids in an interactive classroom environment. Required for those majoring in music and useful to those desiring to write or arrange music for any purpose

**MUSC 103 MUSIC THEORY DIATONIC PRACTICE, PART II**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: MUSC 101 or equivalent information as demonstrated by pretest; concurrent enrollment in MUSC 105)

Continuation of MUSC 102, comprehensive theory musician-ship study centering on basic four-part diatonic harmonic practices. Use of triads in all positions, principles of voice leading, harmonic progression, non-harmonic tones, and melodic construction. Emphasis on written and aural analysis, and creative application of concepts to musical and electronic teaching aids in an interactive classroom/lab environment. Required for those majoring in music and useful to those desiring to write or arrange music for any purpose.

**MUSC 104 SIGHT SINGING LABORATORY, LEVEL I**

Units: 1.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: MUSC 101 or equivalent information as demonstrated by pretest; concurrent enrollment in MUSC 105)

Self-paced, comprehensive, individualized training in sight singing, developing mastery in rhythmic sight reading and playing, pitch matching and matching

notation to inner hearing, and notating rhythmic and melodic dictation. Drill and practice through computer generated exercises using Music Lab software on the student's own computer and practice and testing in the college Music Computer Lab. Additional practice in small group sessions as needed. Student will pass on computer five quiz levels in each of eight skills to receive credit for the appropriate course section. This course is open to anyone desiring to learn basic practical music reading skills; it is required of students taking Music Theory 102.

### **MUSC 105 SIGHT SINGING/EAR TRAINING LABORATORY, LEVEL II**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (Prerequisite: MUSC 103) (Pass/No Pass)

Self-paced, competency based, comprehensive individualized training in sight singing, developing mastery in rhythmic sight reading and playing, pitch matching and matching notation to inner hearing, and notating rhythmic and melodic dictation. Drill and practice through computer generated exercises using Music Lab software on the student's own computer and practice and testing in the college Music Computer Lab. Additional practice in small group sessions as needed. Student will pass five quiz levels in each of eight skills on the computer to receive credit for the appropriate course section. This course is open to anyone desiring to learn basic practical music reading skills; it is required of students taking Music Theory 104.

### **MUSC 110 ELEMENTARY PIANO**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (UC credit limitation). (No prerequisite)

This course offers practical keyboard facility, sight reading, elementary improvisation and harmonization of folk melodies, and performance of simple piano selections. Useful to those desiring to learn to play the piano, organ or electronic keyboards.

### **MUSC 111 ELEMENTARY PIANO**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (No prerequisite)

This course is a continuation of MUSC 110 and offers practical keyboard facility, sight reading, elementary improvisation and harmonization of folk melodies, and performance of simple piano selections. Useful to those desiring to learn to play the piano, organ or electronic keyboards.

### **MUSC 116 MUSIC IN AMERICA**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A survey of music in American life and culture from colonial times to the present, including both popular and art music styles.

### **MUSC 117 HISTORY OF JAZZ**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A survey of jazz from 1900 to the present, including definitions of jazz, African and European heritage, blues, Dixieland, ragtime, boogie woogie, swing, bop, cool, funky, gospel, third stream, free form and fusion. Lecture and structured listening and viewing.

### **MUSIC 118 SURVEY OF ROCK AND ROLL**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

This course will discuss the unfolding of rock and roll as a modern musical genre. It will also discuss societal influence on its development as well as its impact on modern society. Other styles of contemporary commercial music will be discussed and analyzed within the general historical scope of this survey.

### **MUSC 120A APPLIED MUSIC VOICE**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam.

### **MUSC 120B APPLIED MUSIC PIANO**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either

on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam.

### **MUSC 120C APPLIED MUSIC GUITAR**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam.

### **MUSC 120D APPLIED MUSIC UPPER STRINGS**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam.

### **MUSC 120E APPLIED MUSIC LOW STRINGS**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied

students will perform on faculty/student recitals and/or juried exam.

### **MUSC 120F APPLIED MUSIC HIGH BRASS**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam.

### **MUSC 120G APPLIED MUSIC LOW BRASS**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam.

### **MUSC 120H APPLIED MUSIC REEDS**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam.



**MUSC 120I APPLIED MUSIC WOODWINDS**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Dept..) This course may be taken four times.

Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam.

**MUSC 120J APPLIED MUSIC PERCUSSION**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam.

**MUSC 122 BEGINNING VOICE PRODUCTION**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (No prerequisite)

Fundamental techniques of proper voice production including healthy use of the voice for speaking and singing. Teaches proper relaxation and support techniques, speech intensification, vocal freedom and resonance, and emotional support for the singing and speaking process. Designed to meet the needs of those who use their voices for solo and/or ensemble singing or in such vocally intense activities as teaching, group leading, sales, coaching, or for those taking courses in speech communication and acting.

**MUSC 123 INTERMEDIATE VOICE CLASS**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: MUSC 122 or equivalent skills, i.e. formal basic instruction in fear control, proper body relaxation, breath support, vocal focus and some experience in solo vocal performance.) This course may be taken four times.

Application of the vocalization techniques of Music 41 to the study of vocal performance. Attention to diction, tone color, song styles and interpretation. Some basic instruction in Italian, French or German diction. Intensive solo performance in a wide range of musical styles. Useful to anyone desiring to continue the development of the singing voice and performance potential. Repetition of the class provides opportunity for increased skills development.

**MUSC 124 BEGINNING GUITAR**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (No Prerequisite.)

This course offers the study and performance of music for the beginning guitarist. It gives the student with no knowledge of guitar performance the opportunity to learn basic reading skills through simple guitar pieces. Some public performance will be required.

**MUSC 125 BEGINNING GUITAR**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (No prerequisite)

This course offers further study and performance of music for the beginning guitarist. It gives the student with minimal knowledge of guitar performance the opportunity to learn basic reading skills through simple guitar pieces. Some public performance will be required.

**MUSC 126 GUITAR ENSEMBLE**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: Student must audition.) This course may be taken four times.

This course offers the study and performance of music for guitar ensemble. It gives the student with basic knowledge of guitar performance skill the opportunity to perform in an ensemble setting. Some public performance will be required. Repetition provides for increased skill development.

**MUSC 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC.

**MUSC 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units).

**MUSC 130 WOMEN'S CHOIR**

Units: 1.0 - 48-54 hours laboratory. CSU, (UC credit pending) (No prerequisite. Pass/No Pass) This course may be taken four times.

A treble choir of female voices to perform repertoire from all styles and periods of music written or arranged for treble choir. Emphasis on the development of the

total choral musicianship skills of each singer within the group context. Choir will perform at various college and community functions.

### **MUSC 131 THE COLLEGE SINGERS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: Solo audition. Applicant should possess strong basic choral/vocal skills and experience in choral singing i.e. ability to sing on pitch with a well-supported, clear choral tone; strong ear able to retain and accurately recall parts learned; basic sight reading skills; team player willing to take direction. Number of singers accepted in any section may be limited by the requirements of part balance and the repertoire planned for that semester.) (Grade option) This course may be taken four times.

A select chamber choral ensemble of mixed voices to perform at various college and community functions. Repertoire includes significant choral music from all periods of music history, including motets and madrigals, part songs, masses and cantatas with orchestra, 20th century choral songs, and spirituals, vocal jazz and Broadway arrangements. Music is most often performed in the original languages. Emphasis on development of the total choral musicianship skills of each singer. Group may tour out of state or to Europe.

### **MUSC 132 MASTER ARTS CHORALE**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (Prerequisite: Solo audition to determine ability to match pitch, sing in tune, carry a harmony part, level of music reading. Prior choral experience in a high school, college/university, community or church choir desirable.) (Pass/No Pass) This course may be taken four times.

A large choral ensemble dedicated to the performance of major choral works from all musical periods, often with orchestra. Group may tour from time to time in the United States and abroad. Membership open by audition to all students as well as to members of the community.

### **MUSC 134 MUSICAL THEATRE LAB**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (Prerequisite: Demonstrated ability at an acceptable level of proficiency, as evidenced by audition. Grade option) This course may be taken four times.

Preparing the vocal and instrumental music for the college's musical productions. Participation as major leads, supporting roles, chorus or orchestra members as determined by audition. Enrollment in B, C, and D provides the opportunity for increased skill development.

### **MUSC 135 BEGINNING BAND**

Units: 0.5 - 24-27 hours laboratory. CSU (Prerequisite: Student must audition. Pass/No Pass) This course may be taken four times.

This course will be a study and performance of standard elementary band literature composed for the beginning and intermediate level wind and percussion literature. Proper breathing and phrasing techniques will be emphasized along with specific instrument performance technique.

### **MUSC 136 COLLEGE SYMPHONIC BAND**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (Prerequisite: Student must audition. Pass/No Pass) This course may be taken four times.

This course will emphasize the performance of standard college wind literature. Proper playing and performance technique will be stressed. Warm-up skills will be developed along with scale studies and rhythmic refinement. At least two public performances will be required.

### **MUSC 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 Units). CSU

### **MUSC 139 STUDIO JAZZ BAND**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (Prerequisite: Student must audition. Pass/No Pass) This course may be taken four times.

This course provides playing experience in the fields of dance, jazz, rock and popular music. Accurate execution and consistent style will be emphasized. Attention will also be given to improvisation, sight reading, ear training and performance practice skills. Public performances at the college and in the community.

### **MUSC 140 STUDIO SINGERS**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (Prerequisite: Student must audition. Pass/No Pass) This course may be taken four times.

Study and performance of commercial music styles written and arranged for choir in jazz, rock, gospel and popular styles. Development in healthy commercial vocal techniques, sight singing skills, ear training, improvisation and ensemble performance skills will be emphasized. Public performances at college and community concerts.

### **MUSC 141 JAZZ ROCK COMBO**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (Prerequisite: Student must audition. Pass/No Pass) This course may be taken four times.

A study and performance of the principles and skills needed for performing in various commercial music styles in small combos. Emphasis on ensemble skills, improvisation, ear training, music theory, stylistic interpretation and performance practices. Public performances at college and community concerts.

#### **MUSC 143 BEGINNING STRING ENSEMBLE**

Units: 0.5 - 24-27 hours laboratory. CSU, UC.  
(Prerequisite: Students must audition for this ensemble. Alternative course is MUSC 137. Pass/No Pass) This course may be taken four times.

This course will be a beginning study and performance of standard string orchestra literature composed for the beginning string player. Proper left hand position (excluding the use of third position), beginning bow techniques, appropriate performance practices will be emphasized.

#### **MUSC 144 PRELUDIUM STRING ENSEMBLE**

Units: 0.5 - 24-27 hours laboratory. CSU (Prerequisite: Student must audition for this ensemble. Alternative course is Music 137. Pass/No Pass) This course may be taken four times.

This course will be an intermediate study and performance of standard string orchestra literature composed for the intermediate string player. Proper left hand position (excluding the use of third position), intermediate bow techniques, appropriate performance practices will be emphasized.

#### **MUSC 145 COLLEGE SYMPHONY ORCHESTRA**

Units: 0.5 - 24-27 hours laboratory. CSU, UC  
(Prerequisite: Student must audition.) This course may be taken four times.

This course will be a study and performance of standard full orchestral literature for the beginning and intermediate string, wind and percussion player. Emphasis will be on ensemble skills, ear training and performance practices.

#### **MUSC 147 BRASS CHOIR**

Units: 0.5 - 24-27 hours laboratory. CSU, UC  
(Prerequisite: Student must audition. Pass/No Pass)  
This course may be taken four times.

This course will explore brass choir literature and performance through the baroque up to the 21st century. Specific technical skills will be addressed including breathing, phrasing, tonguing and ornamentation practices. Public performances are required.

#### **MUSC 202 ADVANCED THEORY CHROMATIC PRACTICE**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: Completion of MUSC 102; concurrent enrollment in MUSC 203)

The study of chromatic harmonic practices, including all types of seventh chords, dominant seventh and leading tone seventh functions, secondary dominants and secondary leading tone chords, altered non harmonic tones, modulation to closely related keys, and borrowed chords. Continued development of basic musicianship skills, including visual and aural seventh chord recognition, rhythmic reading, melodic, contrapuntal and harmonic dictation. Emphasis on individualized programmed instruction, including the use of computers, small group and other interactive teaching aids.

#### **MUSC 203 SIGHT SINGING/EAR TRAINING LABORATORY, LEVEL III**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: MUSC 105) (Pass/No Pass)

Self-paced, competency based, comprehensive individualized training in sight singing, developing mastery in rhythmic sight reading and playing, pitch matching and matching notation to inner hearing, and notating rhythmic and melodic dictation. Drill and practice through computer generated exercises using Music Lab software on the student's own computer and practice and testing in the college Music Computer Lab. Additional practice in small group sessions as needed. Student will pass five quiz levels in each of eight skills on the computer to receive credit for the appropriate course section. This course is open to anyone desiring to learn basic practical music reading skills; it is required of students taking Music Theory 202.

#### **MUSC 204 ADVANCED THEORY CHROMATIC PRACTICE, PART II**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: Completion of MUSC 202)

Extends the concepts in MUSC 202 through use of foreign modulations, borrowed and augmented chords, neopolitan and other sixth chords, chromatic third relation harmony and ninth, eleventh and thirteenth chords. Continued development of basic musicianship skills, including visual and aural seventh chord recognition, rhythmic reading, melodic, contrapuntal and harmonic dictation.

#### **MUSC 205 SIGHT SINGING/EAR TRAINING LABORATORY, LEVEL IV**

Units: 1.0 - 48-54 hours laboratory. CSU, UC.  
(Prerequisite: MUSC 203) (Pass/No Pass)

Self-paced comprehensive individualized training in sight singing, developing mastery in rhythmic sight reading and playing, pitch matching and matching notation to inner hearing, and notating rhythmic and melodic dictation. Drill and practice through computer generated exercises using Music Lab software on the student's own computer and practice and testing in the college Music Computer Lab. Additional practice in small group sessions as needed. Student will pass five quiz levels in each of eight skills on the computer to receive credit for the appropriate course section. This course is open to anyone desiring to learn basic practical music reading skills; it is required of students taking Music Theory 204.

### MUSC 210 INTERMEDIATE PIANO

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (No prerequisite)

This course offers the continued development of keyboard facility from including harmonization of given melodies using appropriate intermediate accompaniments, furthered exploration of piano repertoire and related skills, styles and technical exercises. Two octave major and minor scales, arpeggios, and harmonization skills will be explored.

### MUSC 211 INTERMEDIATE PIANO

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (No prerequisite)

This course offers the continuation and development of practical keyboard facility from accompaniments, exploration of piano repertory and related stylistic and technical exercises. The study of basic elements of music, including pitch and rhythm recognition, key signatures, intervals, time signatures, major and minor scales, and simple triads. Useful to those wishing to learn to sight read or play an instrument, and for those who wish to write music.



## NURSING

The Associate Degree of Science in Nursing is approved by the California Board of Registered Nursing. Graduates are eligible to take the National Council for Licensure Examination for Registered Nursing (NCLEX-RN) and, upon successful completion, become eligible for licensure as a Registered Nurse in the state of California.

California law allows for the denial of Registered Nurse Licensure on the basis of any conviction or action substantially related to nursing practice. The California Board of Registered Nursing requires applicants for licensure with prior convictions to provide proof of rehabilitation before taking the NCLEX-RN that establishes fitness for performing nursing functions. For further clarification, contact the Nursing Department or the California Board of Registered Nursing.

The Associate Degree Nursing Faculty accepts and operates within the framework of the philosophy and mission of Victor Valley College. The conceptual framework is based on the systems and change theory using the Nursing Process. The components of the curriculum are arranged around the client's bio-psycho-social, and cultural/spiritual beliefs. The faculty believes that the student is an adult learner who is expected to take an active role in the learning process.

Separate application must be made into the nursing program. Several admission and progression options are available, including generic, advanced placement, transfer, non-graduate and 30 unit option. Specific information is available in the application packet, the student nurse handbook and from the program director. Please contact the Nursing Department for application dates.

### Prerequisites for admission into the nursing program

1. Human Anatomy (equivalent to Victor Valley College BIOL 211), 4-5 units, completed with a grade of "C" or better.
2. Human Physiology (equivalent to Victor Valley College BIOL 231), 4-5 units, completed with a grade of "C" or better.
3. Microbiology (equivalent to Victor Valley College BIOL 221), 5 units, completed with a grade of "C" or better.
4. Program prerequisites must be completed prior to application.

Note that these prerequisites *themselves* have prerequisites: Math 90; Chem 100; and Biol 107 (preferred) or 100.

### Enrollment Process

After the prerequisites have been verified and there are still too many students for the spaces available, those accepted into the program will be based on the

enrollment criteria. The enrollment process is based on the recommended Best Practice for Enrollment prepared by the Chancellor's Office of the California Community Colleges, and approved by the Chancellor's Office. Please contact the Nursing Department or Nursing Counselor for further clarification of the enrollment process.

**NOTE:**

1. Prior to admission to the ADN program, students must demonstrate physical health as determined by a history and physical examination.
2. To continue in the program, the students must submit a current physical and meet required immunizations, titers, and have a chest X-ray and/or PPD. Also, a current American Heart Association Health Care Provider CPR Certificate, or equivalent, must be obtained and current. Current liability insurance and criminal background checks are required in order to comply with the program and clinical agencies' contractual requirements. Per individual facility requirements, random drug testing may also be required.
3. The College does not provide transportation to and from required clinical facilities.
4. In order to continue in the ADN program students must earn a minimum grade of C in all nursing and other required courses.
5. Nursing courses have specific prerequisites. Refer to course descriptions in this catalog.

**Career Opportunities**

The graduate is prepared to practice nursing at any entry level in the following settings:

- Medical/Surgical Nursing
- Psychiatric Nursing
- Maternal/Newborn Nursing
- Post-Anesthesia Nursing
- Perioperative Nursing
- Geriatric Nursing
- Critical Care Nursing
- Rehabilitation Nursing
- Neurosurgical Nursing
- Oncology Nursing

**Faculty**

**Full Time**

- Diane Cline
- Starlie Luna
- Diego Garcia
- Renata Longoria
- Kay McKinley
- Alice Ramming
- Jeanine Speakman
- Sally Thibeault
- Terry Truelove

**Degrees and Certificates Awarded**

- Associate in Science, Nursing
- Associate Degree Nursing Certificate
- Nursing Licensure Certificate

**Certificate Programs**

**ASSOCIATE DEGREE NURSING CERTIFICATE**

Units Required: 80.0 Minimum Units

Nursing Core

NURS 220	Pharmacology and Nursing Management	2.0
NURS 221	Nursing Process 1	10.0
NURS 222	Nursing Process 2	9.0
NURS 223	Nursing Process 3	9.0
NURS 224	Nursing Process 4	9.0
NURS 246	Assessment and Nursing Skills	3.0

*Group A: All of the following must be completed:*

BIOL 211	Human Anatomy	5.0
BIOL 221	General Microbiology	5.0
BIOL 231	Human Physiology	5.0
ENGL 101	English Composition and Reading	4.0
PSYC 101	General Psychology	3.0
PSYC 110	Developmental Psychology	3.0
SOC 101	Introduction to Sociology	3.0

*Group B: One of the following must be completed:*

CMST 106	Human Communication	3.0
CMST 107	Family Communication	3.0
CMST 108	Group Discussion	3.0
CMST 109	Public Speaking	3.0

*Group C: One of the following must be completed:*

3.0 units. One course which meets the VVC Mathematics general education requirements for Category V

*Group D: One of the following must be completed:*

3.0 units. One course which meets the VVC Humanities general education requirement for Category III

*Group E: One Physical Education Course 1 unit*

American Institutions and Global Citizenship (see page 61)

Each class must be completed with a grade of "C" or better.

**NURSING LICENSURE CERTIFICATE**

Units Required: 67.0

BIOL 211	Human Anatomy	5.0
BIOL 231	Human Physiology	5.0
BIOL 221	General Microbiology	5.0
SOC 101	Introduction to Sociology	3.0
PSYC 101	General Psychology	3.0
PSYC 110	Developmental Psychology	3.0
CMST 106, 107, 108, or 109	Human Communication, Family Communication, Group Discussion, or Public Speaking	3.0

ENGL 101	English Composition and Reading	3.0
NURS 220	Pharmacology and Nursing Management	2.0
NURS 221	Nursing Process 1	10.0
NURS 222	Nursing Process 2	9.0
NURS 223	Nursing Process 3	9.0
NURS 224	Nursing Process 4	9.0
NURS 246	Assessment and Nursing Skills	3.0

EACH CLASS MUST BE COMPLETED WITH A GRADE OF "C" OR BETTER.

**Placement Options**

**GENERIC STUDENTS are those who will complete the entire nursing program at Victor Valley College.**

The application is submitted, and after approval, class selection is made according to the current enrollment process. Students must also pass (=>67%) the Testing of Essential Academic Skills (TEAS) prior to program start. The TEAS Exam tests the student's knowledge of basic Math, English, Reading and applicable science.

**TRANSFER STUDENTS are those who transfer nursing units from another college.**

The education code allows students to transfer only lower division units to a community college. Each student requesting transfer of Nursing units will be individually evaluated by the Nursing Program Admission, Promotion and Program Effectiveness (AEPE) Committee to determine appropriate placement in the VVC Program. Placement will be made on a space available basis and is determined by the course content and number of nursing degree units completed. A Priority Transfer List will be established according to the Policy for Nursing Program Transfer. Students will be given credit for general education courses according to the college's published policy (see College Catalog). If the student has earned a non-progression grade (D or F) in a registered nursing at another school, acceptance to Victor Valley College Nursing Program will be considered their second chance. Prospective students must score a minimum of 62% on the TEAS.

**ADVANCED PLACEMENT STUDENTS (LVN to RN) for those documented as Licensed Vocational Nurses in California.**

Students choosing this option must apply to the program, meet the prerequisites (completion of college-level Anatomy, Physiology, and Microbiology; documented proof of one year of full-time or two thousand hours working as an LVN), and take the Credit by Examination\* for NURS 220 (Pharmacology and Nursing Management), NURS 246 (Assessment and Nursing Skills), and NURS 222 (Nursing Process 2). Advanced placement students must pass the Credit by Examination for NURS 221. Students are also required to pass (C or better) NURS 225 (LVN to RN Transition Course). Placement into 2<sup>nd</sup> or 3<sup>rd</sup> semester is determined by scores on the Credit by Examinations. Depending on the number of applications, acceptance

into the transition course may be based on the program's entry policy (Nursing Student Handbook). Applications for this option are accepted in the Winter and Summer. Program placement will be in Spring and Fall respectively. TEAS requirement will be a minimum of 62% for all students.

\*Requirements for earning credit by examination include being currently enrolled in at least one course and having successfully completed 12 semester units at VVC with a GPA of 2.0 or higher. **A student may only challenge a given course one time, and may not have already received credit for the course.**

**CHALLENGE STUDENTS**

Students admitted to the Nursing Program with previous documented experience may be allowed to challenge certain specified content areas (Education Code, Section 5557537), Title 5 of the California Administrative Code.) (Contact the Director of Nursing regarding this option.)

**THIRTY-UNIT OPTION**

is available to California Licensed Vocational Nurses. The Board of Registered Nursing regulation 1435.5 provides the option of completing 30 semester units in Nursing and related science courses in order to be eligible to take the RN licensure exam. To enter this option the applicant must: 1) have a current California Vocational Nurse License (LVN); 2) have previously completed Human Physiology, 4 or 5 units with a lab, and Microbiology, 4 or 5 units with a lab; both with a C or better. The application and placement policy for Advanced Placement Students also applies to this option (see Item 3 above). Candidates completing this option are not graduates of VVC, but are eligible to take the licensure exam. They are not eligible to wear the VVC graduate Nursing pin nor graduate from the Associate Degree program. (Contact the Director of Nursing regarding this option.)

**NON-GRADUATE OPTION**

Allows students to complete only those classes required to take the NCLEX exam. In the VVC Nursing Program, those classes are: BIOL 211, 221, 231; ENGL 101; SOC 101, CMST 106, 107, 108, or 109; PSYC 101, PSYC 110; NURS (5 classes) All classes must be completed with a C or better. Students choosing this option are not graduates of VVC. The TEAS requirement applies to all entry options.

**Contracts or Grants**

The Nursing program reserves the right to bypass portions of the enrollment process to designate a certain number of spaces from any of the above entry options for contracts, grants, pilot programs or partnerships, and/or to meet requirements of grant-designated outcomes.

For detailed information regarding VVC's Associate Degree Nursing Program Placement/Advancement

Policy, please refer to the current ADN Program Student Handbook.

### **Associate Degree**

To earn an Associate in Science degree with a major in Nursing one must complete all certificate courses and meet all Victor Valley College graduation requirements. The Associate Degree Nursing Certificate includes all requirements for both a certificate and an Associate in Science degree in Nursing. The Nursing Licensure Certificate requires additional general education courses to complete an associate degree. The Nursing Licensure Certificate precludes receiving the Associate Degree in Science with a major in nursing.

### **Transfer**

Acceptance into a baccalaureate of science degree in Nursing is based on completion of prerequisites and entrance requirements. To pursue a BSN, complete the following requirements prior to transfer. Visit [www.assist.org](http://www.assist.org) for the most current information.

#### **California State University, Dominguez Hills RN to BSN program**

1. Minimum of 60 semester units of transferable college credit with a grade point average of at least 2.0 (C) or better in all transferable course work (non-residents: 2.4) and have satisfied any high school subject deficiency in English and mathematics by equivalent course work (the maximum transferable credit accepted from a two-year college is 70 semester units). English composition, Public Speaking, GE Math and Logic/Critical Thinking must be completed prior to admission for new applicants.
2. Current RN licensure in the United States, or an RN interim permit.
3. It is recommended that students obtain GE certification from a community college prior to admission.

#### **California State University, San Bernardino BSN program**

1. Completion of an application to the university and nursing program
2. Attendance at a group advising session
3. Completion of the following prerequisites: BIOL 211, BIOL 231, BIOL 221, CHEM 100 OR H100, CHEM 206, 207, MATH 105 or H105 or MATH 132, CMST 109, ENGL 101, and one course from the following: PHIL 109, 207, RLST 207, ENGL 104, H104
4. Additional support courses: PSYC 110
5. 3.0 GPA minimum
6. "C" or better on all course work

## **NURSING COURSES**

### **NURS 49 KNOWLEDGE REVIEW FOR PRE-NURSING STUDENTS**

Units: 2.0 - 108 hours laboratory. (Prerequisite: Acceptance into VVC Nursing Program AND failure to achieve at least 62% score on the TEAS. Pass/No Pass.) This course may be taken two times.

This course is designed to assist those who have completed the requirements to enter the nursing program but who have not achieved the minimum score on the Test of Essential Academic Skills (TEAS) or have been on the waiting list long enough to need a review of scholastic subjects and study skills.

### **NURS 138 COOPERATIVE EDUCATION** (See Cooperative Education 1-8 units). CSU

### **NURS 148 SPECIAL TOPICS**

See Special Topics listing (Variable units).

### **NURS 149 INDEPENDENT STUDY**

See Independent Study listing (1-3 units).

### **NURS 220 PHARMACOLOGY AND NURSING MANAGEMENT**

Units: 2.0 - 32-36 hours lecture. CSU (Prerequisite: Admission to the Nursing Program as required by BRN.)

This course is a nursing class about the study of drug therapy to prevent, diagnose, or cure disease processes or to relieve signs and symptoms of diseases. It includes content specific to the registered nurse and utilization of the nursing process to fulfill nursing responsibility in medication management of clients.

### **NURS 221 NURSING PROCESS 1**

Units: 10.0 - 90 hours lecture and 270 hours laboratory. CSU. (Prerequisite: Anatomy, Physiology, and Microbiology completed with a grade of 'C' or better. (Corequisite: NURS 220)

An introduction to the Victor Valley College Associate Degree Nursing Program and the nursing profession. Emphasis is on the Nursing Process and fundamentals of nursing; including risk management, health promotion, psycho-social aspects, electrolyte and acid-base management, and the perioperative experience practiced in various clinical settings and the classroom laboratory.

### **NURS 222 NURSING PROCESS 2**

Units: 9.0 - 64-72 hours lecture and 240-270 hours laboratory. CSU (Prerequisite: NURS 220 and NURS 221 completed with a grade of 'C' or better.)

The Nursing Process applied to family nursing and the childbearing family, the adaptations of nursing care for various stages of growth and development, and the nursing management required in common adult conditions; e.g., nutritional, tissue perfusion, elimination.

**NURS 223 NURSING PROCESS 3**

Units: 9.0 - 72 hours lecture and 270 hours laboratory. CSU (Prerequisite: NURS 222)

The Nursing Process applied to critical care areas, psychiatric/mental health and complex geriatric care. Emphasis will be on client adaptation in chronic and acute illness.

**NURS 224 NURSING PROCESS 4**

Units: 9.0 - 72 hours lecture and 270 hours laboratory. CSU (Prerequisite: NURS 223)

The Nursing Process applied with a holistic view to multi-system problems with a comprehensive approach in the hospital and community setting. Clinical experience demonstrates the use of legal, ethical, and leadership principles, and the ability to function with minimum supervision as a preceptor.

**NURS 225 LICENSED VOCATIONAL NURSE (LVN) TO REGISTERED NURSE (RN) TRANSITION COURSE**

Units: 1.0 - 16-18 hours lecture. CSU. (Prerequisites: Current California Licensure as an LVN and Physiology and Microbiology [Mandated - State of California].)

A transition course with emphasis on role development for the Licensed Vocational Nurse (LVN) entering the VVC Registered Nurse (RN) program. Includes concepts of nursing process, Nursing Practice Act, critical thinking, problem solving, and skill proficiency.

**NURS 226 CRITICAL CARDIO RESPIRATORY NURSING**

Units: 2.0 - 32-36 hours lecture. CSU. (Prerequisites: NURS 222 and/or licensed as a Registered Nurse or Licensed Vocational Nurse. Grade Option)

This optional nursing course provides an introduction to critical care nursing environment. Pathophysiology, diagnosis, treatment and nursing implication for patients in the critical care area will be discussed. This course will benefit primarily students going into their third semester of nursing as well as other medical personnel with medical, surgical or cardiac care background.

**NURS 227 PARAMEDIC TO RN BRIDGE**

Units: 10.0 - 80-90 hours lecture and 240-270 hours laboratory. (Prerequisites: NURS 246 with a minimum grade of 'C' or better and TEAS score of 67% or greater

and student must be experienced paramedic.) This course may be taken two times.

This bridge course is designed to ready the paramedic nursing student to the adjustment of culture, language and practice of the profession of nursing. Roles, functions, and practice settings for the paramedic and associate degree nurse will be compared and discussed. Emphasis is on the nursing process and fundamentals of nursing, including risk management, health promotion, psycho-social aspects, electrolyte and acid-base management, and the peri-operative experience practiced in various clinical settings and the classroom laboratory.

**NURS 245 NURSING LEADERSHIP AND MANAGEMENT**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: NURS 223 or equivalent with a "C" or better, or permission of the Nursing Program Director). Contact Nursing Dept. Offered intermittently.

Leadership and management techniques used in various health care settings, with emphasis on problem solving within the changing role of nursing as it relates to patient care and professional relationships.

**NURS 246 ASSESSMENT AND NURSING SKILLS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: Acceptance into the VVC Nursing Program.) This course may be taken two times.

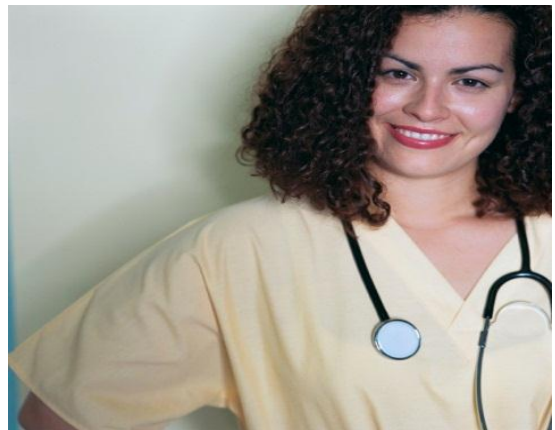
Focuses on development of assessment skills including obtaining a health history, performing physical assessment of the adult, and evaluating physiologic changes related to aging and pediatric patient population. Emphasis on developing interviewing skills, assessing cultural factors, and utilization of basic assessment techniques.

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**NURSING ASSISTANT**

See Allied Health for certificate information

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**OCEANOGRAPHY COURSES**

**OCEA 101 OCEANOGRAPHY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

An introduction to the marine environment. Methods and techniques of exploration, physics, and chemistry of the oceans; adaptation of organisms; significance of the marine environment to man. A general survey of the major aspects of oceanography; history, topography and geography, geology, chemistry, physics, meteorology, biology, and resource management.

**PARALEGAL STUDIES**

A paralegal works in a paraprofessional capacity as an assistant to an attorney in a private law firm, governmental agency industry, or private association. The paralegal performs many tasks normally handled by an attorney, such as preparing forms, writing memoranda, interviewing clients, researching legal matters, managing the law office, and a variety of other tasks. There are also self-employed paraprofessionals who work for attorneys on request.

The Paralegal Studies Certificate program at Victor Valley College is designed for students pursuing paraprofessional careers in the legal field. There are two types of such paraprofessionals.

**Paralegal:** Pursuant to California Assembly Bill 1761, a person may use the title “paralegal” only when they have obtained the required educational qualifications and they work directly under the supervision of a licensed California attorney.

**Legal Document Assistant:** Pursuant to California Senate Bill 1418, independent non-attorneys who provide law-related services to the public for compensation must register with the county clerk as a “Legal Document Assistant,” and may not use the term “paralegal” in reference to themselves or their service. (For more information on the LDA registration process, contact the California Association of Legal Document Assistants at [www.caip.org](http://www.caip.org)).

It is *strongly recommended* that students complete ENGL 101 and Political Science 102 before they begin taking paralegal courses so that they will have a firm foundation in writing skills and a basic understanding of the American legal system at the state and national levels of government. It is *further recommended* that students first complete (or at least concurrently enroll in) POLS 130, Introduction to Paralegal Studies, before continuing with other paralegal courses.

*This is not a four-year transfer program, it is not transferable for advanced standing in a law school, and is not designed to be a “pre-law” program. The Paralegal Studies Certificate is not equivalent to a law school (J.D. degree) program, and thus, does not serve*

*as a preparation for the bar exam. See a counselor for transfer requirements to other institutions.*

**PARALEGAL STUDIES CERTIFICATE**

Units Required: 36.0

Students must complete a minimum of 36 units, with at least 15 units taken in residence at Victor Valley College, with a minimum grade of “C” in all paralegal classes.

*Group I — All of the following must be completed:*

POLS 130	Introduction to Paralegal Studies	3.0
POLS 131	Fundamentals of Litigation for Paralegals	3.0
POLS 133	Legal Ethics for Paralegals	3.0
POLS 134	Family Law	3.0
POLS 135	Tort Law for Paralegals	3.0
POLS 136	Legal Writing for Paralegals	3.0
POLS 137	Beginning Legal Research for Paralegals	3.0
AJ 103	Criminal Law	3.0
BADM 117	Legal Environment of Business	3.0

*Group II — At least 9 units of the following must be completed:*

AJ 102	Criminal Procedures	3.0
AJ 104	Legal Aspects of Evidence	3.0
BADM 101	Elementary Accounting	
OR 103	Principles of Accounting	3.0-4.0
BRE 110	Legal Aspects of Real Estate I	3.0
BET 104	Beginning Word Processing/Typing	
	Word for Windows A/B/C	1.0-3.0
ENGL 104	Critical Thinking and Composition	3.0
OR PHIL 109	Introduction to Logic	3.0
CMST 109	Public Speaking	3.0

**Associate Degree**

At this time, Victor Valley College does not offer an associate degree with a major in Paralegal Studies.

**Transfer**

To pursue a bachelor’s degree in this field, CSUSB has a program that might interest you. For the most up-to-date information on this program and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Criminal Justice major, Paralegal Studies Concentration*

**PARAMEDIC**

The paramedic is able to diagnose and treat medical emergencies and accident victims in the pre-hospital setting. To apply for the Paramedic program, students must already be Emergency Medical Technicians; see Emergency Medical Technician for more information.

The Paramedic certificate is a one-year program that runs from June to May and requires a special application. For more information, visit the VVC Paramedic website at: [www.vvc.edu/academic/Paramedic](http://www.vvc.edu/academic/Paramedic). Classes in this area meet California State EMS authority and ICEMA regulations.

"The Victor Valley College Paramedic Academy is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP)."

Commission on Accreditation of Allied Health Education Programs  
1361 Park Street  
Clearwater, FL 33756  
727-210-2350  
[www.caahep.org](http://www.caahep.org)"

**Career Opportunities**

Paramedic

**Faculty**

**Full Time**

Brian Hendrickson  
Scott Jones  
Dave Oleson

**Degrees and Certificates Awarded**

Associate in Science, Paramedic  
Paramedic Certificate

**Certificate Programs**

**PARAMEDIC CERTIFICATE**

Units Required: 38.5

This certificate prepares students to take the state examination to practice as a paramedic.

*All of the following must be completed*

ALDH 50	Paramedic Anatomy and Physiology	4.0
ALDH 51	Paramedic Introduction to EMS	1.0
ALDH 52	Paramedic Cardiology	4.0
ALDH 53	Paramedic Pharmacology	3.5
ALDH 54	Paramedic ACLS	1.0
ALDH 55	Paramedic EMS Theory	10.0
ALDH 56	Paramedic Clinical	4.0
ALDH 57	Paramedic Field Internship	11.0

**Associate Degree**

To earn an Associate in Science degree with a major in EMS, complete the above Paramedic Certificate requirements and meet all Victor Valley College graduation requirements.

**Transfer**

Not a transfer major. Some students pursue bachelor's degrees in related fields such as Emergency Medical Care at Loma Linda University.

**PHILOSOPHY**

The study of philosophy is dedicated to reflection on the most fundamental concerns of human life. Students examine and assess the concepts and arguments expressed in writings of influential philosophers on such enduring themes as moral value, religious knowledge, political order, truth, and ultimate reality. Philosophical study assists students in developing such valuable and transferable skills as analytical reading and writing, creative and critical thinking, and sound judgment.

**Career Opportunities**

(Most careers require a bachelor's or advanced degree.)

Corporate Manager  
Ethics Consultant  
Lawyer  
Management Trainer  
Public Administrator  
Religious Leader  
Social Worker  
Teacher  
Writer

**Faculty**

**Full Time**

Marc Skuster

**Emeritus**

Milton Danielson

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts

**Certificate Program**

No certificates awarded.

**Associate Degree**

No associate degree offered with a major in Philosophy. Philosophy courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**  
*Philosophy major*

■ **University of California, Riverside**  
*Philosophy major*

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## PHILOSOPHY COURSES

### PHIL 101 INTRODUCTION TO PHILOSOPHY

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0.)

Introduction to the field of philosophy through a discussion of enduring questions about the nature of existence, knowledge, and value.

### PHIL 108 CONTEMPORARY MORAL ISSUES

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0.)

Critical study of major ethical theories and their application to contemporary moral issues in bio-medical practice, law and violence, sexuality, social and economic justice, the environment, and business conduct.

### PHIL 109 INTRODUCTION TO LOGIC

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite.)

Introduction to the principles and practice of reasoning: argument analysis and evaluation, induction, deduction, fallacies, categorical logic, propositional logic. Assignments require use of the computer.

### PHIL 114 POLITICAL PHILOSOPHY

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: Eligibility for ENGL 101.0.)

A survey of political theory and major figures in the history of political philosophy. Questions concerning the role of government, natural rights and the relationship between government and the individual will be explored by evaluating the works of philosophers such as Plato, Aristotle, Locke, and Marx.

### PHIL 117 PHILOSOPHY OF RELIGION

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: Eligibility for ENGL 50 or ENGL 101.0.) See cross listing for RLST 117.

Introduction to major topics in the philosophy of religion: the existence and nature of God, the nature and possibility of religious knowledge, the meaning of

religious language, and concepts of immortality and human destiny. Special attention is given to conflicts between religion and science, competing claims for religious truth, the feminist critique of traditional religion, and the relevance of religion to social ethics.

### PHIL 120 ANCIENT AND MEDIEVAL PHILOSOPHY

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: Eligibility for ENGL 101.0.)

Introduction to the major movements and figures of Western Philosophy in the ancient and medieval periods: the Pre-Socratics, Socrates, The Sophists, Plato, Aristotle, Augustine, Anselm, and Aquinas.

### PHIL 121 INTRODUCTION TO MODERN AND CONTEMPORARY PHILOSOPHY

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: Eligibility for ENGL 50 or ENGL 101.0.)

Survey of major Western philosophers and movements since the Renaissance: Continental Rationalism, British Empiricism, Kant, Hegel, Marx, Utilitarianism, Nietzsche, Pragmatism, Analytic Philosophy, Existentialism, Phenomenology, and Postmodernism.

### PHIL 128 SPECIAL TOPICS

See Special Topics listing (Variable units). CSU, UC.

### PHIL 129 INDEPENDENT STUDY

See Independent Study listing (1-3 units).

### PHIL 207 INTRODUCTION TO CRITICAL THINKING

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 101.0 or ENGL H101 with a minimum grade of 'C'.)

Study and practice in critical thinking and advanced English composition: analysis, evaluation, and formulation of arguments; critical study of texts; and composition of critical essays. Application of critical thinking and writing skills to current moral, social, and religious issues. See cross listing for RLST 207.



**PHOTOGRAPHY**

The study of photography offers a multitude of career possibilities. From fine art to commercial applications, photography is an exciting field that involves an education founded in conceptual as well as technical aspects. The development of the visual mind and a technical foundation in both traditional and digital imaging are the goals of the study of photography here at Victor Valley College.

**Career Opportunities**

- Aerial Surveying
- Advertising
- Architectural Design
- Art
- Digital Imaging
- Fashion
- Film Maker
- Forensic and Criminal Applications
- Marine Biology
- Photo Finishing
- Portrait Photography
- Product Photography
- Photographer's Assistant
- Sports
- Teaching

**Faculty**

- Full Time**  
 Frank Foster  
 Brent Wood

**Degrees and Certificates Awarded**

- Associate in Arts, Fine Arts
- Associate in Arts, Liberal Arts
- Digital Photography Certificate

**Certificate Program**

**DIGITAL PHOTOGRAPHY CERTIFICATE**

Units Required: 17.0

Prepares the student for a variety of employment opportunities within the photographic field. This certificate also provides an opportunity for the student to continue on toward a more advanced certificate program. The student will be exposed to portrait, industrial, commercial, and architectural photography. An emphasis will be placed on learning Adobe Photoshop, digital cameras and digital output devices. The proper use of light will also be extensively covered. All camera formats will be covered.

*All of the following must be completed:*

PHOT 100	Beginning Photography	3.0
PHOT 101	Intermediate Photography	3.0
PHOT 105	Portraiture	3.0
PHOT 52	Introduction to Photoshop	3.0

PHOT 53	Lighting Techniques	3.0
PHOT 54	Portfolio Design	2.0

**Associate Degree**

No associate degree offered with a major in Photography. Photography courses may be used to fulfill requirements for an Associate in Arts degree with a major in Fine Arts. See Fine Arts for degree requirements for this major. Courses may also be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major. PHOT 138 (Cooperative Education) may be used as Elective credit, but may not be used to fulfill major requirements.

**Transfer**

Photography is usually a concentration or option within an Art or Applied Art major at colleges within the University of California and California State University systems. Various private or independent colleges that focus specifically on the arts offer bachelor's degrees with a major in Photography or as a concentration or option within an Art or Applied Art major.

Because the major and the general education requirements vary in this major from university to university, students interested in photography should study the catalog or website of the specific university to which they plan to transfer. Also, visit [www.assist.org](http://www.assist.org) and, for independent schools, [www.aiccu.edu](http://www.aiccu.edu).

The following is a sampling of colleges which offer Photography majors or Photography concentrations within Art or Applied Art majors:

- California State University campuses at East Bay, Fullerton, Hayward, Long Beach, San Jose, San Luis Obispo
- University of California, Santa Cruz
- Art Center College of Design, Pasadena
- California College of Arts and Crafts, Oakland
- California Institute of the Arts, Valencia
- Chapman University

**PHOTOGRAPHY COURSES**

**PHOT 50 COMMERCIAL PHOTOGRAPHIC APPLICATION**

Units: 2.0 - 16-18 hours lecture and 24-27 hours laboratory. (No prerequisite) This course may be taken three times.

This course will introduce the application of photographic imaging to the commercial marketplace. It will stress the use of photography as it applies to the graphic design field as well as portraiture, product and editorial applications. Business principles of this field will also be covered.

**PHOT 51 ENVIRONMENTAL PHOTOGRAPHY**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

This course will cover basic camera exposure and composition for a variety of outdoor settings. Topics include: landscape photography, animal photography, flower photography, sports photography, macro photography and outdoor portraits. The uses and understanding of filters, flash and film. Some field trips will be required.

**PHOT 52 INTRODUCTION TO PHOTOSHOP**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken three times.

This course will introduce the basics of Adobe PhotoShop and its application to digital photography utilizing the Macintosh and PC platforms.

**PHOT 53 BASIC PHOTOGRAPHIC LIGHTING TECHNIQUES**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. PHOT 100 or equivalent recommended. Grade Option) This course may be taken four times.

This course will introduce the student to the fundamentals of lighting and its application to imaging processes. A broad range of topics will be covered that include portraiture, product and commercial applications.

**PHOT 54 PORTFOLIO DESIGN**

Units: 2.0 - 24-27 hours lecture and 24-27 hours laboratory. (No prerequisite. PHOT 100 and PHOT 101 recommended.) This course may be taken four times.

This course will present visual problems for the student to solve for the purpose of creating a traditional and digital portfolio.

**PHOT 100 BEGINNING PHOTOGRAPHY**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite. Grade Option.) This course may be taken four times.

This is a course that introduces the basics of black and white photography. Technical and conceptual topics will be covered. Students will furnish their own cameras with manual controls.

**PHOT 101 INTERMEDIATE PHOTOGRAPH**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite. PHOT 100 is

recommended. Grade Option) This course may be taken four times.

This is an intermediate course designed to teach the student how to use film and digital cameras. Topics covered in this course will be intermediate techniques of photography such as an introduction to portraiture, lighting techniques, multiple light portrait photography, infrared techniques and the view camera. An introduction to Adobe Photoshop will also be covered. This course can be completed with film or digital cameras.

**PHOT 103 ALTERNATIVE IMAGING PROCESS**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. PHOT 100 or equivalent recommended. Grade Option) This course may be taken four times.

This course will cover a variety of alternative photographic processes such as cyanotype, Van Dyke, hand-coloring and toning using traditional techniques as well as computer generated images.

**PHOT 105 PORTRAITURE**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. PHOT 100 or equivalent recommended.) This course may be taken two times.

This course will cover studio and outdoor portrait techniques as well as elements of commercial photography and may be completed with digital or film based cameras.

**PHOT 106 INTRODUCTION TO PHOTOJOURNALISM**

Units: 2.0 - 96-108 hours laboratory. CSU. (No prerequisite.) This course may be taken two times.

This lab class is an introduction to the basics of photojournalism including basic photography skills, digital imaging, processing, composition, and production of written news stories. See cross-listing for JOUR 106.

**PHOT 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units).

**PHOT 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU



**PHYSICAL EDUCATION**

Physical Education as an academic science emphasizes knowledge of the body through the study of kinesiology and exercise physiology. Physical Education also contributes to the intellectual, social, emotional, spiritual and physical growth and development of each student. Other areas of study in Physical Education include: nutrition, healthy lifestyles, stress management as well as psychological aspects of physical activity and injury care and prevention. Additional specialties within the discipline of Physical Education which are more fully addressed in the curriculum at Victor Valley College are Dance and Adapted Physical Education. A variety of activities are offered, encouraging students to develop lifelong fitness activities and patterns for recreation.

Any of the Physical Education activity courses may be repeated up to three times, but not more than four units of physical education activity classes will be counted toward the Associate in Arts or Science Degrees.

With the exception of the Adapted courses, all Physical Education activity classes are intended for normal, healthy, individuals. It is highly recommended that anyone 35 years or older have a physical checkup before enrolling. A Physical Education course is required for the Associate degree.

UC maximum credit allowed for PE courses combined: 4 units.

**Career Opportunities**

- Adapted Physical Education Instructor
- Certified Athletic Trainer
- Certified Personal Trainer
- Community Health Practitioner
- Dance Choreographer
- Dance Instructor
- Dietician/Nutritionist
- Exercise Physiologist
- Exercise Scientist
- Health Instructor
- Leisure Services Specialist
- Physical Education Instructor
- Physical Therapist
- Professional Dancer
- Recreation Director
- Sports Manager
- Sports Psychologist

**Faculty**

**Full Time**

- Debra Blanchard
- Lynn Guardado
- David Hoover
- John Paine
- Bruce Victor
- Christa White

**Degrees and Certificates Awarded**

- Associate in Arts, Liberal Arts
- Dance Certificate

**Certificate Program**

**DANCE CERTIFICATE**

Required Units: 11.0 minimum

*Group I - All of the following must be completed with a grade of 'C' or better:*

PE 103 History and Appreciation of Dance 3.0

*Group II – 8.0 units from the following must be completed with a grade of 'C' or better:*

PEDA 160	Tap I	1.0
OR TA 160		
PEDA 161	Tap II	1.0
OR TA 161		
PEDA 162	Ballroom Dance I	1.0
PEDA 166	Ballet I	1.0
OR TA 166		
PEDA 167	Ballet II	1.0
OR TA 167		
PEDA 170	Jazz Dance I	1.0
OR TA 170		
PEDA 171	Jazz Dance II	1.0
OR TA 171		
PEDA 174	Modern Dance I	1.0
OR TA 174		
PEDA 175	Modern Dance II	1.0
OR TA 175		
PEDA 178	Ballet Folklorico Dance I	1.0
PEDA 180	Dance in Musical Theater	1.0
PEDA 190	Salsa I	1.0
PEDA 266	Ballet III	1.0
OR TA 266		
PEDA 267	Ballet IV	1.0
OR TA 267		
PEDA 270	Jazz Dance III	1.0
OR TA 270		
PEDA 271	Jazz Dance IV	1.0
OR TA 271		
PEDA 274	Modern Dance III	1.0
OR TA 274		
PEDA 275	Modern Dance IV	1.0
OR TA 275		

*Group III – Optional 0-3.0 units – No more than one class from the following:*

PEDA 176	Dance Rehearsal and Performance I	1.0-3.0
PEDA 177	Dance Rehearsal and Performance II	1.0-3.0
PEDA 276	Dance Rehearsal and Performance III	3.0

**Associate Degree**

No associate degree offered with a major in Physical Education. Physical Education courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements.

**Transfer**

CSUSB has a popular program in this area:

■ **California State University, San Bernardino**  
*Kinesiology major*

Different concentrations within the Kinesiology major include Exercise Science, Pedagogy, and pre-physical therapy. For information about these options, see CSUSB's catalog (available in the Transfer Center), visit the website at [www.csusb.edu](http://www.csusb.edu), or visit [www.assist.org](http://www.assist.org).

Specialties in Exercise Physiology, Exercise Science, Fitness Training, and Sports Medicine are usually under the departments of Physical Education or Kinesiology at the four-year colleges. A major in Kinesiology may also lead to graduate programs in Physical Therapy at other institutions. See Sports Medicine under Medical and Health Professions for further information on these specific fields.

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**PHYSICAL EDUCATION  
GENERAL PHYSICAL  
EDUCATION COURSES**

**PE 76 ATHLETIC TRAINING III**

Units: 2.0-6.0 - 108-324 hours laboratory.  
(Recommended Preparation: PE 141 or ALDH 141, Athletic Training I, or equivalent.) This course may be taken four times.

In this course, students will provide the pre-participation, on-site first aid and event maintenance for fall/winter/spring sports programs at VVC (baseball, basketball, football, golf, soccer, softball, tennis, volleyball and wrestling). Experience will include, but is not limited to, prophylactic taping and padding, immediate first aid, monitoring vital signs, completion of accident forms, proper use of universal biohazard precautions, supervision of safe playing conditions and coaching techniques, recognition of medical emergencies, assisting other medical personnel as needed, game preparation and pre-participation medical screenings. See cross listing for ALDH 76.

**PE 77 ATHLETIC TRAINING IV**

Units: 2.0-6.0 - 108-324 hours laboratory.  
(Recommendation Preparation: PE 141 or ALDH 141, Athletic Training I, or equivalent.) This course may be taken four times.

In this course, students will provide the care to athletes involved in fall/winter/spring sports programs at VVC

(baseball, basketball, football, golf, soccer, softball, tennis, volleyball and wrestling). Experience will include but is not limited to development and implementation of rehabilitation protocols. Use of modalities including, whirlpool, ultrasound, ice, Emergency Medical Services, hydrocolator, Range of Motion exercises, joint mobilization, strengthening exercises (isokinetic, isotonic, isometric), cardiovascular conditioning and proprioceptive exercises. See cross listing for ALDH77.

**PE 101 INTRODUCTION TO EXERCISE SCIENCE AND KINESIOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU,UC. (No prerequisite. Grade Option)

An introduction and orientation to the discipline of Kinesiology. It includes an analysis of the importance of physical activity in daily life, the relationship between physical activity and the discipline of Kinesiology. The course surveys the general knowledge base of the discipline as reflected in the major sub-disciplines and reviews selected ideas in each, showing how they contribute to our understanding of the nature and importance of physical activity. In addition this course explores career opportunities and the developmental history of the discipline using critical analysis and comparative analysis of literature, philosophy, and scientific research.

**PE 103 HISTORY AND APPRECIATION OF DANCE**

Units: 3.0 - 48-54 hours lecture. CSU,UC. (No prerequisite. Grade Option)

The origin, growth, and development of dance (in all forms) will be researched. A study of dances originating in many areas of the world will be covered. The class will research who, when, where, and how each dance originated. The class will trace dance from its origin to modern times.

**PE 104 PSYCHOLOGY OF PHYSICAL PERFORMANCE**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite. Grade Option)

An introduction to the discipline of sports psychology for students with no previous background in the field. Topics include: orientation to sports psychology, motivational techniques, individual differences and sport behavior, social-environmental influences and sports behavior, and intervention techniques and sports behavior.

**PE 105 DEVELOPMENTAL MOVMENT OF CHILDREN**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite)

This course provides a comprehensive overview of theories and methods relating to the development of a

physical education program for children ages 0-11 years including children with special needs and abilities. Emphasis is on the application of principles of physical growth and development to the teaching and acquisition of specific physical skills. The course curriculum is consistent with the California State Department of Education Physical Education Framework.

#### **PE 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC.

#### **PE 140 CARE AND PREVENTION OF INJURIES RELATED TO PHYSICAL ACTIVITY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Grade Option)

An introduction to the principles and processes of athletic training. Study of the components of training: preventive techniques, injury recognition and classification, management processes, emergency techniques, rehabilitation processes, body part labeling and functions, and drug/tobacco usage by athletes. Focus is on the broad basis of caring for the athlete's injuries by utilizing methods, objectives, and information from physical education and biological sciences.

#### **PE 141 ATHLETIC TRAINING I**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. See cross listing for ALDH 141. (No prerequisite. Interest and/or experience in athletics and sports recommended.)

Introduction to principles of athletic training, including prevention, evaluation, treatment and rehabilitation of common athletic injuries.

#### **PE 142 ATHLETIC TRAINING II**

Units: - 3.0 – 32-36 hours lecture and 48-54 hours laboratory. CSU. UC. (Recommended Preparation: PE 141 or ALDH 141 Athletic Training I, or equivalent.)

This course will build on the student's basic knowledge of human anatomy and athletic injuries. Topics will include emergency procedures, current health concerns of the athlete, protective devices, advanced taping techniques and injury management. See cross listing for ALDH 142.

#### **PE 150 LIFETIME FITNESS CONCEPTS**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade option)

Designed to help the students understand the role of physical fitness in daily living. Will cover the "how" and the "why" of physical activity. The course will acquaint the student with the human body's structure and functions in relation to physical activity. Students will be

introduced to methods of evaluating their own fitness needs and design a program for present and future needs.

#### **PE 160 PHYSICAL FITNESS**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite. Grade option) This course may be taken four times.

Physical Fitness is an exercise course designed to emphasize fitness by offering the student a variety of exercises to include hand weights, exercise ball, aerobics and step aerobics which can be used to maintain fitness throughout life.

#### **PE 162 WEIGHT TRAINING I**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite. Grade Option) This course may be taken four times.

Introduction to the basic techniques of weight training. The principles of strength development, the role of proper nutrition, the physiology of muscle tissue, the major muscles of the body, and safety will be presented in class. Various weight lifting programs covering strength development, endurance, and body building will also be introduced.

#### **PE 163 WEIGHT LIFTING II**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite. Grade option.) This course may be taken four times.

A weight lifting course for those students who have been consistently participating in a weight lifting program for 6-12 months for at least three hours per week. This course is designed to emphasize continued individual growth in the areas of body building, body sculpturing and strength at an intermediate level. Repetition of the course provides the opportunity for increased skill development.

#### **PE 164 AEROBIC WEIGHT TRAINING**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite. Grade option) This course may be taken four times.

Aerobic weight training combines strength and cardiovascular fitness training into a comprehensive weight training program that has as its major objective the development of all-around fitness. It offers measurable benefits to muscular strength, muscular endurance, body composition, flexibility, and cardiovascular/ aerobic fitness.



**PE 165 BASKETBALL**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite. Grade option) This course may be taken four times.

An introduction to the basic skills, rules, and strategies of basketball including: catching, passing, shooting, and dribbling. Repetition of the course provides the opportunity for increased skill development.

**PE 166 VOLLEYBALL**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite. Grade Option.) This course may be taken four times.

This course is designed to cover the basic rules, techniques and skills, game strategies, and highlights officiating points of volleyball.

**PE 168 SELF DEFENSE**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite. Grade option) This course may be taken four times.

An in-depth look into the skills of self-defense. Defensive strategies to protect oneself from attack. Also, the necessary steps to take to avoid an attack. Designed for all ages.

**PE 180 TENNIS**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite. Grade option) This course may be taken four times.

The course offers logical sequences of learning experiences that include: basic tennis strokes; rules that govern play; understanding of game strategies; individual practice drills, and learning the equipment and safety involved.

**PE 181 GOLF**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite. Grade option) This course may be taken four times.

Covers the use and skill development of equipment including woods, irons and putters. Includes the reading of greens, distance and selection of clubs, etiquette and rules of golf.

**PE 185 FOOTBALL TECHNIQUES AND CONDITIONING**

Units: 2.0 - 96-108 hours laboratory. CSU, UC (UC credit limitation). (No prerequisite. Grade option) This course may be taken four times.

Course will include drills and exercises to develop the skills, techniques, and conditioning essential for participation in intercollegiate football.

**PE 190 YOGA**

Units: 1.0 - 48-54 hours laboratory. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

This course is an introduction to basic yoga practices and principles. Instruction includes classifications of yoga postures as well as guided relaxations and breathing practices. The benefits of yoga include increased flexibility, strength, balance, body awareness and stress reduction. This course is designed for students of all ages and fitness levels.



**DANCE COURSES****PEDA 152 DANCE CHOREOGRAPHY I (formerly PE 26A)**

Units: 2.0 – 16-18 hours lecture and 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

This course is designed to introduce students to the basic elements of dance choreography. Choreography students will work in solo and small groups by using concepts of space, time, and energy to investigate and explore the basic elements of dance.

**PEDA 153 DANCE CHOREOGRAPHY II (formerly PE 26B)**

Units: 2.0 – 16-18 hours lecture and 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

This course is designed to introduce students to the advanced elements of dance choreography. Choreography students will work in solo and small groups by using concepts of space, time, and energy to investigate and explore the advanced elements of dance.

**PEDA 160 TAP I**

Units: 1.0 - 48-54 hours laboratory. CSU (No prerequisite. Grade Option) This course may be taken four times.

Developing skill in tap dancing will be the focus. Skills learned will be a prerequisite to more advanced techniques and which can be used to advance to a more advanced tap class. See cross listing for TA 160.

**PEDA 161 TAP II**

Units: 1.0 - 48-54 hours laboratory. CSU. Student may be required to audition and be approved by instructor for entrance to class. (Grade option) This course may be taken four times.

Development of intermediate knowledge of skill in tap dancing, commonly used in musical productions and theater. See cross listing for TA 161.

**PEDA 162 BALLROOM DANCE I**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (UC credit limitation.) (No prerequisite. Grade option) This course may be taken four times.

Ballroom Dance I encompasses dance techniques, styles and rhythms of beginning level ballroom dance, both traditional and Latin dances will be included. Emphasis on exploring the movement characteristics of the dances.

**PEDA 166 BALLET I**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of beginning ballet dance. Emphasis on exploring the movement characteristics of ballet through dancing. See cross listing for TA 166.

**PEDA 167 BALLET II**

Units: 1.0 - 48-54 hours laboratory. CSU (No prerequisite. Grade option) This course may be taken four times.

Technique and style of secondary level II ballet dance. Emphasis on exploring the movement characteristics of level II ballet through dancing. See cross listing for TA 167.

**PEDA 169 YOGALATES**

Units: 1.0 - 48-54 hours laboratory. CSU (No prerequisite. Grade Option.) This course may be taken four times.

This course in Yogalates is based on the Pilates concepts developed by Joseph Pilates and Yoga. The course will include Pilates core matwork and Yoga and will emphasize improved body alignment, strength, flexibility, control, concentration, circulation, coordination, breathing and help reduce stress.

**PEDA 170 JAZZ DANCE I**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of beginning jazz dance. Emphasis on exploring movement characteristics of jazz dance in all forms. See cross listing for TA 170.

**PEDA 171 JAZZ DANCE II**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of level II jazz dance. Emphasis on exploring the movement characteristics of secondary level of jazz through dancing. See cross listing for TA 171.

**PEDA 174 MODERN DANCE I**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of beginning modern dance. Emphasis on exploring the movement characteristics of

level I modern dance through dancing. See cross listing for TA 174.

**PEDA 175 MODERN DANCE II**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of secondary level II modern dance. Emphasis on exploring the movement characteristics of secondary level II modern dance through dancing. See cross listing for TA 175.

**PEDA 176 DANCE REHEARSAL AND PERFORMANCE I**

Units: 1.0-3.0 - 48-54 hours laboratory per unit, per term. CSU (No prerequisite. Grade option) This course may be taken four times.

This course is designed to introduce students to the methods used for dance rehearsal and performance. Students will learn the etiquette of dance rehearsal and performance, develop skills needed for quick pick up in dance choreography, and performance skills needed for dance production purposes. Repetition of this course provides an increase of developed skills.

**PEDA 177 DANCE REHEARSAL AND PERFORMANCE II**

Units: 1.0-3.0 - 48-54 hours laboratory per unit. CSU (No prerequisite. Grade option) This course may be taken four times.

This course is designed to introduce students to the methods used for secondary levels of dance rehearsal and performance. Students will learn the etiquette of dance rehearsal and performance, develop skills needed for quick pick up in dance choreography and performance skills needed for dance production purposes. Repetition of this course provides an increase of developed skills.

**PEDA 178 BALLET FOLKLORICO DANCE I**

Units: 1.0 - 48-54 hours laboratory. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This introductory course is designed so that students are exposed to the basic elements of Ballet Folklorico dance. Different techniques from various regions in Mexico will be covered.

**PEDA 180 DANCE IN MUSICAL THEATER**

Units: 1.0 - 48-54 hours laboratory. CSU. (No prerequisite. Grade Option) This course may be taken four times.

This course is an in-depth performance experience focusing on styles of body movement for Musical Theatre stage productions. The fundamentals of dance will be reviewed, including basic ballet positions and exercises and basics in tap. Concepts of the history of dance in musical stage will also be explored.

**PEDA 190 SALSA I**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (No prerequisite. Grade Option) This course may be taken four times.

Salsa dancing basics, partner basics and beginning dance patterns.

**PEDA 266 BALLET III**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of intermediate level III ballet dance. Emphasis on exploring the movement characteristics of intermediate level III ballet dance through dancing. See cross listing for TA 266.

**PEDA 267 BALLET IV**

Units: 1.0 - 48-54 hours laboratory. CSU (No prerequisite. Grade option) This course may be taken four times.

Technique and style of advanced level IV ballet dance. Emphasis on exploring the movement characteristics of advanced level IV ballet dance through dancing. See cross listing for TA 267.

**PEDA 270 JAZZ DANCE III**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of intermediate level III jazz dance. Emphasis on exploring the movement characteristics of intermediate level III jazz through dancing. See cross listing for TA 270.

**PEDA 271 JAZZ DANCE IV**

Units: 1.0 - 48-54 hours laboratory. CSU,UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of level IV jazz dance. Emphasis on exploring the movement characteristics of advanced level IV jazz through dancing. See cross listing for TA 271.

**PEDA 274 MODERN DANCE III**

Units: 1.0 - 48-54 hours laboratory. CSU,UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of intermediate level III modern dance. Emphasis on exploring the movement characteristics of intermediate level III modern dance through dancing. See cross listing for TA 274.

**PEDA 275 MODERN DANCE IV**

Units: 1.0 - 48-54 hours laboratory. CSU,UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of advanced level IV modern dance. Emphasis on exploring the movement characteristics of advanced level IV modern dance through dancing. See cross listing for TA 275.

**PEDA 276 DANCE REHEARSAL AND PERFORMANCE III**

Units: 1.0–3.0 - 48-54 hours laboratory per unit. CSU (No prerequisite. Grade option) This course may be taken four times.

This course is designed to introduce students to the methods used for intermediate dance rehearsal and performance. Students will learn the etiquette of dance rehearsal and performance, develop skills needed for quick pick up in dance choreography, and performance skills needed for dance production purposes. Repetition of this course provides an increase of developed skills.

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### ADAPTED PHYSICAL EDUCATION COURSES

**APE 160 ADAPTED PHYSICAL EXERCISE**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. (UC credit limitation). (Prerequisite: Physical condition limiting participation in regular physical education courses. Medical release applicable. Grade option) This course may be taken four times.

Individualized fitness program designed for those with limitations. An individualized fitness program designed to maintain or increase current fitness level. Activities include postural skills, elements of fitness, relaxation and body concepts. Repetition of the course enhances or maintains current movement of fitness level.

**APE 166 ADAPTED CARDIOVASCULAR TRAINING**

Units: 1.0 - 48-54 hours laboratory. CSU (No prerequisite. Grade Option) This course may be taken four times.

This course is designed to meet the needs of students with disabilities who require restricted or modified activities. Individualized cardiovascular exercise

programs will be performed by students with instruction covering the elements of physical fitness. Emphasis will be placed on cardiovascular training principles and techniques.

**APE 167 ADAPTED WEIGHT TRAINING**

Units: 1.0 - 48-54 hours laboratory. CSU (No prerequisite. Grade Option) This course may be taken four times.

This course is designed to meet the needs of students with disabilities who require restricted or modified activities. Individualized exercise programs will be performed by students with instruction covering the elements of physical fitness through weight training. Emphasis will be placed on principles and techniques.

**APE 169 ADAPTED CARDIAC REHABILITATION**

Units: 1.0 - 48-54 hours laboratory. CSU (No prerequisite. Grade Option) This course may be taken four times.

This course is designed to meet the needs of students with disabilities/special needs who require restricted or modified activities pertaining to the heart. Individualized exercise programs for cardiac rehab students will be performed with instruction covering the elements of cardiovascular fitness. Emphasis will be placed on the special needs of this population.

**APE 183 ADAPTED WALKING FOR FUN FITNESS**

Units: 1.0 - 48-54 hours laboratory. CSU (No prerequisite. Grade Option) This course may be taken four times.

This course is designed to meet the needs of students who require restricted or modified activities. Individualized cardiovascular exercise programs will be performed by students with instruction covering the elements of physical fitness. Emphasis will be placed on cardiovascular training principles and techniques through walking.

**APE 185 ADAPTED SPORTS AND GAMES**

Units: 1.0 - 48-54 hours laboratory. CSU (No prerequisite. Grade Option) This course may be taken four times.

The adapted sports and games course is designed to develop students gross motor skills and to facilitate their participation in life-long activities enhancing improved fitness, self-esteem, and social interaction. Activities include but are not limited to bowling, softball, and frisbee. Fitness, rules, and sportsmanship will also be discussed.

## PHYSICAL SCIENCES

General Physical Sciences includes a number of scientific courses which often encompass a number of related disciplines. They are intended to serve as introductory level general education courses while also providing a basis for future, more advanced study in each of their respective fields.

### Career Opportunities

(May require advanced degree)

Astronomer  
Geologist  
Meteorologist  
Oceanographer

### Degrees and Certificates Awarded

Associate in Arts, Liberal Arts  
Associate in Science, Math/Science

### Certificate Program

No certificates awarded.

### Associate Degree

No associate degree offered with a major in Physical Sciences. Physical Science courses may be used to fulfill requirements for an Associate in Science degree with a major in Math/Science. See Math/Science for degree requirements for this major. PSCI 138 (Cooperative Education) may be used for Elective credit, but may not be used to fulfill major requirements.

### Transfer

To pursue a bachelor's degree in this field, here is a school that has a program that might interest you. For the most up-to-date information on this program and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **University of California, Riverside**  
*Physical Sciences major*

## PHYSICAL SCIENCE COURSES

### **PSCI 101 PRINCIPLES OF PHYSICAL SCIENCE**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

A general education course dealing with basic concepts of the physical sciences including astronomy, geology, meteorology, and oceanography.

### **PSCI 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC.

### **PSCI 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

## PHYSICS

The study of physics involves trying to understand, at the most fundamental level, our observations of natural phenomena. Inquiries extend from the most minute of subatomic particles, to nuclei, atoms, molecules, solids, liquids, gases and plasmas, stars and galaxies. Physics seeks to explain how, under the influence of some fundamental forces, nature behaves as it does. In a larger sense it tries to address questions about our universe, such as: Where did we come from? What will be our ultimate fate?

The sequence of physics classes fills the lower division requirements for students who plan to major in fields such as physics, engineering or medicine.

### Career Opportunities

(May require advanced degree)

Engineer  
Physicist  
Teaching at many levels

### Faculty

**Full Time**  
Michael Butros

### Degrees and Certificates Awarded

Associate in Arts, Liberal Arts  
Associate in Science, Math/Science

### Certificate Program

No certificates awarded.

### Associate Degree

No associate degree offered with a major in Physics. Physics courses may be used to fulfill requirements for an Associate in Science degree with a major in Math/Science. See Math/Science for degree requirements for this major. Courses may also be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major. PHYS 138 (Cooperative Education) may be used as Elective credits, but may not be used to fulfill major requirements.

### Transfer

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Physics major*
- **University of California, Riverside**  
*Physics major*

**PHYSICS COURSES****PHYS 100 INTRODUCTORY PHYSICS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: MATH 50 with a grade of 'C' or better.)

An introduction to general physics for students who have not had physics, or who have not had physics recently. Fundamental principles of mechanics, waves, heat, electricity and magnetism, light, atomic and nuclear physics.

**PHYS 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC.

**PHYS 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

**PHYS 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**PHYS 201 ENGINEERING PHYSICS**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: MATH 226 with a minimum grade of 'C'. MATH 226 or MATH H226 may be taken concurrently.)

Course material includes a study of vectors, rectilinear motion, motion in a plane, particle dynamics, work and energy, conservation laws, collisions, rotational kinematics and dynamics.

**PHYS 202 ENGINEERING PHYSICS (MECHANICS OF FLUIDS, HEAT AND SOUND)**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 201 and MATH 227 or MATH H227. MATH 227 or MATH H227 may be taken concurrently)

Equilibrium of rigid bodies, oscillations, gravitation, fluid statics and dynamics, waves in elastic media, sound, and thermodynamics.

**PHYS 203 ENGINEERING PHYSICS (ELECTRICITY AND MAGNETISM)**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 202 and MATH 228 or MATH H228. MATH 228 or MATH H228 may be taken concurrently)

Charge and matter, the electric field, electric potential, capacitors and dielectrics, direct current and resistance, electromotive force and circuits, the magnetic field, inductance, magnetic properties of matter,

electromagnetic oscillations, alternating currents, electromagnetic waves, and the Maxwell Equations.

**PHYS 204 ENGINEERING PHYSICS IV**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 203.)

Course material includes the nature and propagation of light, reflection and refraction, interference, diffraction, gratings and spectra, relativity, elements of quantum physics, waves and particles, nuclear physics.

**PHYS H204 HONORS ENGINEERING PHYSICS (LIGHT AND MODERN PHYSICS)**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 203)

The nature and propagation of light, reflection and refraction, interference, diffraction, gratings and spectra, relativity, elements of quantum physics, waves and particles. See Honors Program listing for further information on admission to the Honors Program.

**PHYS 221 GENERAL PHYSICS I**

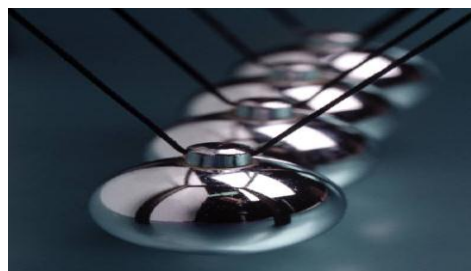
Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: MATH 104 and MATH 226 or MATH H226. MATH 226 or MATH H226 may be taken concurrently.)

Vectors, motion in one and two dimensions, particle dynamics, work and energy, conservation laws, collisions, rotational motion and dynamics, thermodynamics.

**PHYS 222 GENERAL PHYSICS II**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 221; corequisite: MATH 227 or MATH H227. Recommended preparation: PHYS 100 is strongly recommended.)

Electromagnetic theory, oscillations, waves, geometrical optics, interference and diffraction quantum physics, atomic and nuclear physics.



**PHYSIOLOGY**

See Biology

**POLITICAL SCIENCE**

Political science is the study of political philosophies, processes, principles, and the structures of government and other political institutions. This academic discipline leads toward an understanding of the institutions of political ideologies, institutions of government, the roles of citizens and political leaders, interest groups and political parties, the electoral process, and contemporary issues that surround our public life. This field also includes an analysis of governments around the world and of international relations.

**Career Opportunities**

- Attorney
- Budget Analyst
- Campaign Consultant/Staff Member
- Educator
- Foreign Diplomat/International Organization Worker
- Government Official/Elected Official
- Intelligence Officers & Analysts
- Law Enforcement Officer
- Legislative/Executive Staff Assistant
- Lobbyist
- National/International Business Position
- Nonprofit Organization Staff Member
- Print/Broadcast Journalist
- Political Party Worker
- Urban Planner/City Manager

**Faculty**

**Full Time**

- Dino Bozonelos
- David Dupree

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts

**Certificate Program**

**INTERNATIONAL STUDIES CERTIFICATE**

Required Units: 15.0 – 17.0

*Group I – All of the following must be completed:*

POLS 110	Contemporary World Affairs	3.0
POLS 111	Global Issues	3.0
POLS 112	Comparative Government	3.0
POLS 113	Politics of the Middle East and North Africa	3.0

*Group II – One of the following must be completed:*

ANTH 102	Cultural Anthropology	3.0
FREN 101	Elementary French	5.0
GEOG 102	Cultural Geography	3.0
GERM 101	Elementary German	5.0

HIST 104	World History Since 1500	3.0
HIST 131	Latin American History	3.0
RLST 110	World Religions	3.0
SPAN 101	Elementary Spanish	5.0
SPAN 101A	Fundamentals of Spanish 1A	3.0
SPAN 125	Conversational Spanish	3.0
CMST 105	Intercultural Communication	3.0

The Political Science Department also offers a certificate in Paralegal Studies. See paralegal Studies for further information about this program of study.

**Associate Degree**

No associate degree offered with a major in Political Science. Some Political Science courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. Paralegal Courses (POLS 130, 131, 133, 134, 135, 136, 137) may be used as Electives but may not be used to fulfill major requirements for any degree at this time. Also see Administration of Justice.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**  
*Political Science major*

■ **University of California, Riverside**  
*Political Science major*

**POLITICAL SCIENCE COURSES**

**POLS 90A MODEL UNITED NATIONS A**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade option)

This course introduces students to the theory and practice of international diplomacy through participation in Model United Nations simulations. The course focuses on the history, structure, and functions of the United Nations; international bargaining and diplomacy; conflict resolution; researching and writing position papers and resolutions; and public speaking. Students are not required to attend a Model United Nations Conference.

**POLS 90B MODEL UNITED NATIONS B**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade option)

This course introduces students to the theory and practice of international diplomacy through participation in Model United Nations simulations. The course focuses on the history, structure, and functions of the United Nations; international bargaining and diplomacy;

conflict resolution; researching and writing position papers and resolutions; and public speaking. Students are not required to attend a Model United Nations Conference.

### **POLS 90C MODEL UNITED NATIONS C**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade option)

This course introduces students to the theory and practice of international diplomacy through participation in Model United Nations simulations. The course focuses on the history, structure, and functions of the United Nations; international bargaining and diplomacy; conflict resolution; researching and writing position papers and resolutions; and public speaking. Students are not required to attend a Model United Nations Conference.

### **POLS 90D MODEL UNITED NATIONS D**

Units: 3.0 - 48-54 hours lecture. (No prerequisite. Grade option)

This course introduces students to the theory and practice of international diplomacy through participation in Model United Nations simulations. The course focuses on the history, structure, and functions of the United Nations; international bargaining and diplomacy; conflict resolution; researching and writing position papers and resolutions; and public speaking. Students are not required to attend a Model United Nations Conference.

### **POLS 91A INDIVIDUAL EVENTS**

Units: 2.0 - 16-18 hours lecture and 32-36 hours individualized instruction. (No prerequisite. Grade Option)

Model United Nations individual events training for intercollegiate United Nations conferences and competitions. Instruction and direction for delegate training. Preparation for international current event debates, parliamentary debate and conflict resolution. Participate in conferences and competitions simulating policies and conflicts within the United Nations.

### **POLS 91B INDIVIDUAL EVENTS**

Units: 2.0 - 16-18 hours lecture and 32-36 hours individualized instruction. (No prerequisite. Grade Option)

Model United Nations individual events training for intercollegiate United Nations conferences and competitions. Instruction and direction for delegate training. Preparation for international current event debates, parliamentary debate and conflict resolution. Participate in conferences and competitions simulating policies and conflicts within the United Nations.

### **POLS 91C INDIVIDUAL EVENTS**

Units: 2.0 - 16-18 hours lecture and 32-36 hours individualized instruction. (No prerequisite. Grade Option)

Model United Nations individual events training for intercollegiate United Nations conferences and competitions. Instruction and direction for delegate training. Preparation for international current event debates, parliamentary debate and conflict resolution. Participate in conferences and competitions simulating policies and conflicts within the United Nations.

### **POLS 91D INDIVIDUAL EVENTS**

Units: 2.0 - 16-18 hours lecture and 32-36 hours individualized instruction. (No prerequisite. Grade Option)

Model United Nations individual events training for intercollegiate United Nations conferences and competitions. Instruction and direction for delegate training. Preparation for international current event debates, parliamentary debate and conflict resolution. Participate in conferences and competitions simulating policies and conflicts within the United Nations.

### **POLS 101 INTRODUCTION TO POLITICAL SCIENCE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

An introduction to modern politics and the scope of political science as a discipline. Presents a comprehensive survey of the study of political science, modern political ideologies and movements, participation, institutions of government, political issues and foreign affairs of nation-states around the world.

### **POLS 102 INTRODUCTION TO AMERICAN GOVERNMENT AND POLITICS**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

Analysis of the Constitution and study of its historical development. Surveys the powers, structure, and operation at the national, California state, and local levels with emphasis upon the national level. Examination of the causes, consequences, and possible solutions to important problems in contemporary America.

### **POLS H102 HONORS AMERICAN GOVERNMENT AND POLITICS**

Units: 4.0 - 64-72 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

Examines the workings of our complex system of American government, including: national, California state, and local levels (with emphasis on the national



level). This survey will focus on the historical and contemporary development of our Constitution, political institutions, citizen participation, politics, and policies. Critical analysis of classical and contemporary scholarly texts and political oratory will be used extensively to examine the American political experience.

### **POLS 103 STATE AND LOCAL GOVERNMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

An introduction to the study of the American political system at the state and local levels of government. Examines the workings of our complex system of federalism by focusing on contemporary state and local government institutions, citizen participation, political problems, politics, and policies. Emphasis is given to the analysis of California political issues, politics and government.

### **POLS 110 CONTEMPORARY WORLD AFFAIRS**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

An introduction to the analysis of the historical development and contemporary setting of political relations between and among nation-states, trans-national movements, and international organizations. Introduces the analytical approaches to the study of world affairs and theories of international conflict and cooperation. Explores the variety of governmental and non-governmental entities on the world stage today, their foreign policy goals and interests, and instruments and uses of power. Examines contemporary issues confronting the global community and the historical development and uses of international law and organizations.

### **POLS 111 GLOBAL ISSUES**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Grade Option)

This course is a survey of contemporary international issues and international organizations. Topics, such as "terrorism," geopolitical relationships, and ethnic conflicts, will be examined within the context of the United Nations system and its related regional organizations. This course will assist students to prepare for Model United Nations conference competitions. Participation in the Model United Nations conference competitions is voluntary and not a requirement for this course.

### **POLS 112 COMPARATIVE GOVERNMENT**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

An introduction to the comparative analysis of contemporary political systems and their environments

around the world. Examines current political institutions, citizen participation, political problems, politics, and policies within these systems. Emphasis is given to selected nation-states in order to provide a broader, representative knowledge encompassing a variety of modern political systems and environments reflecting the geographic regions of the world.

### **POLS 113 POLITICS OF THE MIDDLE EAST AND NORTH AFRICA**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Grade option)

This course will examine the Middle East and North Africa through a comparative politics perspective. This will include an examination of the following items: an overview of the region's histories, geographies, peoples, cultures, religions and languages; the fundamentals of the Islamic and Judaic belief systems; current events such as the Israeli-Palestinian conflict, the War in Iraq and other real potential geopolitical conflicts.

### **POLS 114 POLITICAL PHILOSOPHY**

Units: 3.0 - 48-54 hours lecture. CSU, UC (No prerequisite)

A survey of political theory and major figures in the history of political philosophy. Questions concerning the role of government, natural rights and the relationship between government and the individual will be explored by evaluating the works of philosophers such as Plato, Aristotle, Locke and Marx.

### **POLS 120 LEADERSHIP**

Units: 2.0 - 32-36 hours lecture and 15 hours laboratory. CSU. (No prerequisite)

This course is designed for any student interested in leadership within an organization. The course will assist students interested in campus leadership positions to identify effective leadership characteristics and their role in institutional maintenance and change. Focus will include (but is not limited to) developing leadership styles, needs assessment, policy, finance, public speaking, parliamentary procedure, comparative forms of collegial governmental process, communication skills, program, development and evaluative methods.

### **POLS 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC.

### **POLS 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units).

**POLS 130 INTRODUCTION TO PARALEGAL STUDIES**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

Students will learn the nature of the career field, the skills and knowledge required, the ethical requirements, the background in court systems, and the legal research and writing that are necessary for success in the profession. The emphasis is placed on functions of a paralegal within a private law firm, within a government agency, as a business owner, and as a litigation assistant. CSU.

**POLS 131 FUNDAMENTALS OF LITIGATION FOR PARALEGALS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course examines the intricate working of the American court system and the role of the paralegal in litigation practice. This course will focus on the process that begins with the client interview, extends through the filing, develops into the discovery state, takes final shape in the trial stage and ends with enforcement of a judgment. Critical analysis of statutory and judicial rules for the conduct of litigation will be used extensively to provide a strong foundation for operating within the legal field.

**POLS 133 LEGAL ETHICS FOR PARALEGALS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course examines the role of the paralegal in the rendering of legal services by attorneys to clients and the ethical rules that govern that relationship. The student will become familiar with the concept of the unauthorized practice of law, the criminal penalties such practices carry and the best means to avoid liability. Comprehensive study of the ABA's Model Rules of Professional Conduct will give the student a broad base from which to operate ethically and legally as a paralegal.

**POLS 134 FAMILY LAW**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course examines Family Law rules and procedures for the paralegal working in a California family law practice. Concepts covered include marital contracts, annulment, separation, dissolution, child custody and support, spousal support, property division, and tax consequences of family law procedures. Included will be current topics in family law such as demise of marriage, same-sex unions, adoptions, and surrogate motherhood.

**POLS 135 TORT LAW FOR PARALEGALS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course introduces the paralegal to the world of tort law; takes them through the basic concepts that are the foundation of negligence litigation (duty, breach, causation, damages), intentional torts to both persons and property, and strict liability. Introduces the student to investigative procedures in personal injury cases.

**POLS 136 LEGAL WRITING FOR PARALEGALS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite.)

This course provides the paralegal student with the development of good legal writing skills. Critical analysis of proper legal writing forms stressing logic, clarity and format will be used to shape the paralegal student's ability to produce such legal documents as correspondence, legal briefs, memorandum of law, pleadings, and appellate briefs.

**POLS 137 BEGINNING LEGAL RESEARCH FOR PARALEGALS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite.)

This course provides the paralegal student with a beginning introduction to the sources and means of legal research. The course will focus on developing the student's ability to locate and use various types of legal authority including legal encyclopedias, constitutions, statutes, court opinions, administrative regulations, and appellate decisions. The student will be expected to learn and practice Shepardizing and citation checking skills.

**POLS 139 WILLS AND TRUSTS FOR PARALEGALS**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite.)

This course introduces the paralegal student to the laws of Wills, Trusts and Estates, including the creation of wills, testate succession, intestate succession, trust creation and arrangements, family protection, estate planning, probate courts, and estate taxes.

**POLS 138 COOPERATIVE EDUCATION**

See Cooperative Education listing ( 1-8 units)



## PSYCHOLOGY

Psychology is a behavioral science which has as its goals to describe, understand, explain, predict and influence behavior and mental processes. Graduates in psychology—bachelor's degree and post-graduate study required—are employed in a number of areas, including teaching, research, and practice. Some of the major sub-fields in psychology are clinical, counseling, developmental, educational, environmental, health, industrial/organizational, neuroscience, physiological, quantitative (math, psychometrics, statistics), school, and social psychology.

### Career Opportunities

Advertising Executive  
Industrial/Organizational Psychologist  
Marriage, Family and Child Counselor  
Mental Health Officer  
Personnel Analyst  
Probation Officer  
Psychologist  
Psychometrist  
Rehabilitation Counselor  
School Counselor  
School Psychologist

### Faculty

#### **Full Time**

Patricia Jennings  
Jim Previte  
Bill Bachofner, Emeritus  
Milt Danielson, Emeritus  
Jennie Lackey, Emeritus

### Degrees and Certificates Awarded

Associate in Arts, Liberal Arts

### Certificate Program

No certificates awarded. See Alcohol and Drug Studies for certificates offered at surrounding community colleges.

### Associate Degree

No associate degree offered with a major in Psychology. Psychology courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major. PSYC 138 (Cooperative Education) may be used as Elective credit, but may not be used to fulfill major requirements.

### Transfer

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

■ **California State University, San Bernardino**  
*Psychology major*

■ **University of California, Riverside**  
*Psychology major*  
*Psychobiology major*

### **Local Bachelors Program**

*For information on the following program located in the High Desert, please visit: [www.vvc.edu/office/guidance\\_and\\_counseling/](http://www.vvc.edu/office/guidance_and_counseling/) and select "Counseling Information Sheets":*

■ **Brandman University, Victor Valley Campus**  
*Psychology major*

## PSYCHOLOGY COURSES

### **PSYC 101 INTRODUCTORY PSYCHOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC (No prerequisite. Recommended preparation: Eligibility for ENGL 101.0)

This course provides instruction in the nature of human behavior and a consideration of theories and principles pertaining to the topics of research design and experimentation, perception, emotions and motivation, personality, social psychology, psychopathology, human development, learning, cognition and memory. It includes essential features of the biological and neurological basis of behavior.

### **PSYC H101 HONORS INTRODUCTORY PSYCHOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC No prerequisite. Recommended preparation: Eligibility for ENGL 101.0)

This course provides instruction in the nature of human behavior and a consideration of theories and principles pertaining to the topics of research design and experimentation, perception, emotions and motivation, personality, social psychology, psychopathology, human development, learning, cognition and memory. It includes essential features of the biological and neurological basis of behavior.

### **PSYC 102 INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

The psychology experiment, critiques of published research, basic statistical procedures. Each student conducts and reports several experiments.

### **PSYC 103 PERSONAL AND SOCIAL ADJUSTMENT**

Units: 3.0 - 48-54 hours lecture. CSU. (No Prerequisite. Grade option)

Approaches to understanding of personality, the dynamics of personality, personal adjustment, mental hygiene.

**PSYC 105 PERSONAL AND CAREER SUCCESS**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No Prerequisite. Grade option)

This intensive course is designed to assist students in obtaining the skills and knowledge necessary to identify and reach their personal goals and achieve college and career success. Topics covered include: self-awareness, goal-setting, motivation and discipline, memory development, time management, oral and written communication skills, study skills, diversity, financial planning, and an orientation to college life. See cross listing for GUID 105.

**PSYC 108 IDENTIFYING AND HELPING SURVIVORS OF DYSFUNCTIONAL FAMILIES**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course explores the symptoms, theories, and dynamics of family dysfunction. Family dysfunction contributes to drug addiction, alcoholism, depression, promiscuity, unfulfilling relationships, co-dependency, family violence, stress disorders, and other psychopathologies. Theories and strategies of intervention and recovery for victims are presented emphasizing the breaking of destructive patterns and promotion of wellness.

**PSYC 109 NEUROPSYCHOLOGICAL BASIS OF BEHAVIOR**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

The course relates states and behaviors such as licit and illicit chemicals, Circadian rhythms, emotion, learning, thought, memory, motivation, exercise, reproduction, sensation and perception, sleep, and abnormal behavior to the structure and function of the nervous system. Research methods and techniques are also discussed.

**PSYC 110 DEVELOPMENTAL PSYCHOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite. Recommended preparation: Eligibility for ENGL 101.0 and satisfactory completion of PSYC 101.)

This course includes the study of the theories, methods, and research findings regarding biosocial, cognitive, and psychosocial development of the individual from conception through adulthood, including death, dying, and bereavement.

**PSYC H110 HONORS DEVELOPMENTAL PSYCHOLOGY**

Units: 4.0 - 64-72 hours lecture. CSU, UC (No prerequisite: Recommended preparation: Eligibility for ENGL 101.0 and satisfactory completion of PSYC 101.

This course includes the study of the theories, methods, and research findings regarding biosocial, cognitive, and psychosocial development of the individual from conception through adulthood, including death, dying, and bereavement.

**PSYC 111 INTRODUCTION TO CHILD PSYCHOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

A study of the physical, intellectual, emotional, and social development of the child extending from the prenatal period through adolescence. 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

**PSYC 121 HUMAN SEXUALITY AND INTIMACY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite.)

This is a survey course of human sexual and intimate behaviors throughout the life cycle. It includes the physiological, psychological, sociological, and theoretical approaches of human sexuality, the cultural legacy of human sexuality, variations of sexual behaviors and intimate relationships, sexuality throughout the life cycle, sexual disorders and related social issues.

**PSYC 125 INTRODUCTIN TO COUNSELING**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Recommended preparation: PSYC 101.

An introduction to principles and practices of counseling concepts will be the primary focus. A systematic consideration of the basic skills and theories essential for effective counseling and problem solving.

**PSYC 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC.

**PSYC 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units)

**PSYC 133 INTRODUCTION TO DRUG/ALCOHOL STUDIES**

Units: 3.0 - 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

This course will provide a historical perspective on drug/alcohol abuse, its impact on the individual, the family, the community and society. Definitions of use, abuse, and addiction will be presented as well as the disease concept of addiction. The effectiveness and economics of various models of treatment and rehabilitation will be explored.

### **PSYC 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

### **PSYC 204 SOCIAL PSYCHOLOGY**

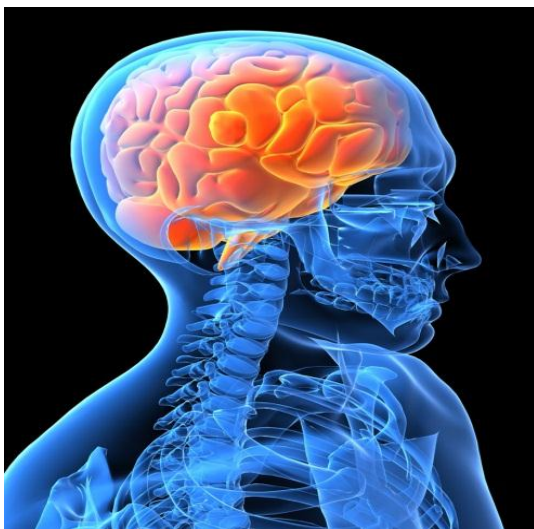
Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: PSYC 101 or PSYC H101)

The focus of this course is the relationship between the individual and society including such topics as social identity, conformity, obedience and deviance, attitudes and attitude change, attribution theory, persuasion, prejudice and stereotyping, aggression and prosocial behavior, interpersonal relationships, group dynamics, and conflict and conflict resolution.

### **PSYC 213 ABNORMAL PSYCHOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

This course explores the history and classifications of psychological disorders, symptom criteria, clinical assessment, diagnosis, and the major theoretical treatment modalities. The Psychoanalytic, Cognitive-Behavioral, Humanistic, Biological, and Socio-Cultural theories are emphasized. How we define, assess, treat, and study psychological disorders from each theoretical perspective is the thematic focus of the course. A variety of class exercises are used to illustrate and understand the etiology, symptoms, diagnosis, and treatment of psychological disorders.



## **RELIGIOUS STUDIES**

The academic study of religion is an objective, factual study of the texts, symbols, myths, rituals, ideas, and values of the world's many religious traditions. Students are encouraged to view religion multiculturally as a means of understanding more deeply the spiritual dimensions of human nature, history, and society. Study in this field prepares students for life in a multicultural society and provides practice in such valuable skills as empathetic reading and listening, critical reflection, and descriptive and analytical writing.

### **Career Opportunities**

(Most careers require a bachelor's or advanced degree.)

Chaplain  
Counselor  
Government Service  
Nonprofit Management  
Professional Religious Leader  
Religious Broadcaster  
Religious Business Manager  
Religious Educator  
Religious Journalist  
Religion Publisher  
Social Worker  
Teacher

### **Faculty**

#### **Full Time**

Marc Skuster  
Milt Danielson, Emeritus

### **Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts

### **Certificate Program**

No certificates awarded.

### **Associate Degree**

No associate degree offered with a major in Religious Studies. Religious Studies courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major.

### **Transfer**

To pursue a bachelor's degree in this field, here is an institution that has a program that might interest you. For the most up-to-date information on this program and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

### **■ University of California, Riverside**

*Religious Studies major*

**RELIGIOUS STUDIES COURSES****RLST 101 INTRODUCTION TO RELIGIOUS STUDIES**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0 is recommended.)

Introduction to the primary forms of religious experience and expression and to the structure of religious worldviews. Examples from a variety of societies and time periods introduce and illustrate such topics as religious symbols, myths, ritual, and communities, as well as alternative concepts of ultimate reality, cosmogony, theodicy, and soteriology.

**RLST 105 RELIGIONS OF THE ANCIENT NEAR EAST, THE HEBREW SCRIPTURES, AND THE OLD TESTAMENT**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0.)

Introduction to the religious history of the ancient Near East. Historical study of the sources, contents, interpretation, and religious and historical significance of the Hebrew Scriptures and the Old Testament.

**RLST 106 INTRODUCTION TO THE NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0 is recommended.)

Historical introduction to classical Mediterranean religion and culture. Comparative literary, historical, and sociological analysis of the New Testament and early Christian literature.

**RLST 110 RELIGIONS OF THE MIDDLE EAST AND THE WEST**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0.)

Survey of the history, beliefs, and practices of the major religious traditions of the Middle East and West; ancient Greek, Roman, Egyptian, Mesopotamian, and Persian religions; indigenous religions; Mesoamerican religions; Judaism; Christianity; Islam; new religious movements.

**RLST 111 RELIGIONS OF SOUTH AND EAST ASIA**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0.)

Survey of the history, beliefs, and practices of the major religions of East and South Asia: Hinduism, Buddhism,

Jainism, Sikhism, Confucianism, Taoism, and Shinto. Discussion of modern challenges to traditional religion and the emergence of new religious movements inspired by Asian traditions.

**RLST 113 RELIGION AND SOCIETY**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0 is recommended.)

Study of the interaction between social forces and religious belief and practice, with an emphasis on contemporary American social and religious life. Special topics include the social aspects of evangelical religion, the interaction of religion and politics, the relation between religion and gender, and the impact of globalization.

**RLST 115 RELIGION IN AMERICA**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: Eligibility for ENGL 101.0)

Historical study of religion in America, including both its diversity and unifying factors. Major topics include Native American religion, Judaism, Roman Catholicism, Protestantism Christianity, African-American religion, American sects, metaphysical and occult religions, Asian religions, and religious dimension of public life, politics, and popular culture.

**RLST 117 PHILOSOPHY OF RELIGION**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite. Recommended preparation: Eligibility for ENGL 101.0 or ENGL 50.) See cross listing for PHIL 117.

Introduction to major topics in the philosophy of religion: the existence and nature of God, the nature and possibility of religious knowledge, the meaning of religious language, and concepts of immortality and human destiny. Special attention is given to conflicts between religion and science, competing claims for religious truth, the feminist critique of traditional religion, and the relevance of religion to social ethics.

**RLST 207 INTRODUCTION TO CRITICAL THINKING**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 101.0 or ENGL H101)

Study and practice in critical thinking and advanced English composition: analysis, evaluation, and formulation of arguments; critical study of texts; and composition of critical essays. Application of critical thinking and writing skills to topics in the areas of values and religion. See cross listing for PHIL 207.

**RLST 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC.

**RLST 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

**RESPIRATORY THERAPY**

Respiratory therapy is an allied health profession specializing in the diagnosis, treatment, and care of patients suffering from cardiopulmonary disease.

The program provides didactic instruction and supervised clinical practice in Inland Empire hospitals. Graduates of the VVC Respiratory Therapy Program, as a result of the education and training they receive, pass the state licensing and national registry exams at a rate much greater than the national average. The Victor Valley College Respiratory Therapy Program is accredited by the Commission on Accreditation for Respiratory Care ([www.coarc.com](http://www.coarc.com)), 1248 Harwood Road, Bedford, TX 76021-4244, (817) 283-2835.

Separate application must be made to the Respiratory Therapy Program. Seating is limited to a maximum of twenty-five students per class.

Applications are available from the Program Director, Allied Health, or from the Counseling Department.

**Career Opportunities**

- Respiratory Care Practitioner
- Critical Care Specialist
- Diagnostic Testing Specialist
- Education
- Home Care
- Neonatal/Pediatric Specialist
- Pulmonary Rehabilitation
- Research

**Faculty**

**Full Time**

- Traci Marin
- Russell McCord

**Degrees and Certificates Awarded**

- Associate in Science, Respiratory Therapy
- Respiratory Therapy Certificate

**Certificate Program**

**RESPIRATORY THERAPY (A.S. AND CERTIFICATE)**

Units Required: 82.0 minimum

This certificate prepares the student to take the State examination to practice as an entry level practitioner and the National Examination for Advanced level practitioner.

*Group A: All of the following must be completed:*

RSPT 50	Polysomnography I	4.0
RSPT 230	Introduction to Respiratory Therapy	3.0
RSPT 231	Orientation to and Basic Fundamentals of Respiratory Therapy	10.0
RSPT 232	Patient Assessment and Clinical Application of Respiratory Care	10.0
RSPT 233	Intensive Respiratory Care and Advanced Pulmonary Physiology	13.0
RSPT 234	Neonatal and Pediatric Respiratory Care and Pathophysiology and Pulmonary Rehabilitation	13.0
RSPT 239	Introduction to Continuous Mechanical Ventilatory Support	2.0
BIOL 211	Human Anatomy	5.0
BIOL 221	General Microbiology	5.0
BIOL 231	Human Physiology	5.0
ENGL 101	English Composition and Reading	4.0
PSYC 101	General Psychology	3.0

*Group B: One of the following must be completed:*

CMST 106	Interpersonal Communication	3.0
CMST 107	Family Communication	3.0
CMST 108	Group Discussion	3.0
CMST 109	Public Speaking	3.0

*Group C: One of the following must be completed:*

One course which meets the VVC Logic/Mathematical general education requirements for Category V

*Group D: One of the following must be completed:*

One course which meets the VVC Humanities general education requirements for Category III

*Group E: One of the following must be completed:*

One Physical Education Course

Any course which meets the general education transfer requirements to the CSU or UC system may be used as a general education requirement for the associate degree in Groups III and IV.

The Respiratory Therapy Faculty accepts and operates within the framework of the philosophy and objectives of Victor Valley College.

The Associate Degree in Respiratory Therapy provides a foundation for continuing personal, professional and educational development, and includes the study of the arts, sciences and humanities. The program is designed to produce a competent, self-directed respiratory therapist who, in a variety of settings, can assume leadership in planning, providing, and evaluating respiratory care of individuals and groups; who participates in the determination of the goals of the

profession; and who actively searches for knowledge in respiratory therapy and related fields essential to the development and application of scientific respiratory care.

The respiratory therapy graduate receives the Associate of Science Degree and is eligible to take the National Registry Exam for Respiratory Therapists and the entry level exam for licensure in the State of California.

In order to be admitted to the Respiratory Therapy Program, separate application must be made in addition to application to the college. The annual deadline date for submitting applications to be considered for respiratory therapy is March 15. Applications can be obtained through the Allied Health Office or the Counseling Department. Prerequisites: CHEM 100, BIOL 100 or 107, and MATH 90 must be completed with a grade of "C" or higher before entry into the program.

#### **Associate Degree**

To earn an Associate in Science degree with a major in Respiratory Therapy, complete all requirements for the Respiratory Therapy Certificate. The Respiratory Therapy Certificate above includes all requirements for both a certificate and an Associate in Science degree in Respiratory Therapy.

#### **Transfer**

A handout with all transfer requirements for a B.S. degree in Health Care Services, Respiratory Therapy, and other related medical degrees from Loma Linda University is available in the Counseling Department, or visit [www.llu.edu](http://www.llu.edu).

### **RESPIRATORY THERAPY COURSES**

#### **RSPT 50 POLYSOMNOGRAPHY I**

Units: 4.0 - 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

Topics include sleep terminology, sleep structure and disorders, complete patient set-up and data acquisition. Students will also learn the basics of noninvasive treatments for certain sleep disorders.

#### **RSPT 90 ECHOCARDIOGRAPHY 1**

Units: 10.0 - 64-72 hours lecture and 288-324 hours laboratory. (No prerequisite. Recommended preparation: BIOL 211, BIOL 231 and MATH 90.)

This course is designed to prepare students for an entry level career in a hospital or clinic as an echocardiographer. Topics include physics, instrumentation, cardiac anatomy and physiology, cardiac disease specific calculations, standard exam calculations and protocol.

#### **RSPT 91 ECHOCARDIOGRAPHY 2**

Units: 10.0 - 64-72 hours lecture and 288-324 hours laboratory. (No prerequisite. Recommended preparation: RSPT 90.)

This course expands on echocardiography subjects presented in RSPT 90. Topics include assessment of pericardial diseases, vascular disorders, electrocardiogram (ECG) and advanced topics.

#### **RSPT 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

#### **RSPT 149 INDEPENDENT STUDY**

See Independent Study listing (1-3 units)

#### **RSPT 230 INTRODUCTION TO RESPIRATORY THERAPY**

Units: 3.0 - 48-54 hours lecture. CSU. (Prerequisite: MATH 50, CHEM 100 or CHEM H100, BIOL 100 or BIOL H100, BIOL 107 or BIOL H107 and formal admission to the Respiratory Therapy Program)

Introduces the student to respiratory therapy as a health science profession, including history, professional requirements, responsibilities, professional organizations, and credentialing of the respiratory care practitioner. Provides basic anatomy and physiology, physics and math, and basic cardio-pulmonary pathology in order to give the student a foundation of theory and application.

#### **RSPT 231 ORIENTATION TO THE BASIC FUNDAMENTALS OF RESPIRATORY THERAPY**

Units: 10.0 - 64-72 hours lecture and 324 hours laboratory. CSU. (Prerequisite: RSPT 230 with a grade of "C" or better.)

This course continues with a more advanced discussion of medical terminology, anatomy, physiology and cardiopulmonary pathology as it relates to the clinical applications of medial gas therapy, humidity and aerosol therapy, therapeutic and diagnostic modalities, and infection control. Students will be provided with an extensive orientation to the hospital environment and the administration of basic respiratory therapy to patients.

#### **RSPT 232 PATIENT ASSESSMENT AND CLINICAL APPLICATION OF RESPIRATORY THERAPY**

Units: 10.0 - 64-72 hours lecture and 288-324 hours clinical. CSU. (Prerequisite: RSPT 231 with a grade of "C" or better)

This course is a more in-depth study of the theory and application of respiratory therapy. Its content includes airway management, pulmonary assessment, advanced cardiopulmonary physiology and the pharmacology associated with pulmonary patients. The student will



spend 16 hours a week in the hospital administrating respiratory modalities to patients.

### **RSPT 233 INTENSIVE RESPIRATORY CARE AND ADVANCED PULMONARY PHYSIOLOGY**

Units: 13.0 - 64-72 hours lecture and 54 hours laboratory plus 432 hours clinical. CSU. (Prerequisite: RSPT 239, BIOL 211, BIOL 231, with a grade of "C" or better.)

A more advanced study of the theory and application of respiratory care. The content will include: mechanical life support, respiratory physiology, equipment utilized in the critical care unit, microbiology, arterial puncture and analysis, endo-tracheal intubation, and principles of advanced cardiac life support.

### **RSPT 234 NEONATAL AND PEDIATRIC RESPIRATORY CARE AND RELATED PATHOPHYSIOLOGY**

Units: 13.0 - 64-72 hours lecture. 48-54 hours laboratory and 384-432 hours clinical CSU. (Prerequisite: RSPT 233 and BIOL 221 with a grade of "C" or better)

This course is a more advanced study of the theory and application of neonatal/pediatric respiratory care. The content will include: mechanical life support, respiratory pathophysiology, equipment utilized in the NICU/PICU, microbiology, umbilical line, capillary blood samples and analysis, endotracheal intubation, and principles of PALS and NRP.

### **RSPT 239 INTRODUCTION TO CONTINUOUS MECHANICAL VENTILATORY SUPPORT**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. (Prerequisite: Completion of RSPT 232 with a "C" or better)

This course introduces the principles of mechanical ventilation, allows hands-on experience with current ventilators, and reinforces therapeutic care.

### **RSPT 241 BASIC PRINCIPLES OF RESPIRATORY THERAPY**

Units: 5.0 - 160 hours laboratory. CSU. (Prerequisite: Graduation from a one-year, CoARC accredited program; active CRT/RCP credential; and 1000+ hours of recent clinical experience.)

A self-paced equivalent of RSPT 231 for students meeting the advanced placement criteria. Successful completion requires demonstration of mastery of the classroom, laboratory, and clinical objectives equivalent to RSPT 231.

### **RSPT 242 PATIENT ASSESSMENT AND CLINICAL APPLICATION OF RESPIRATORY CARE**

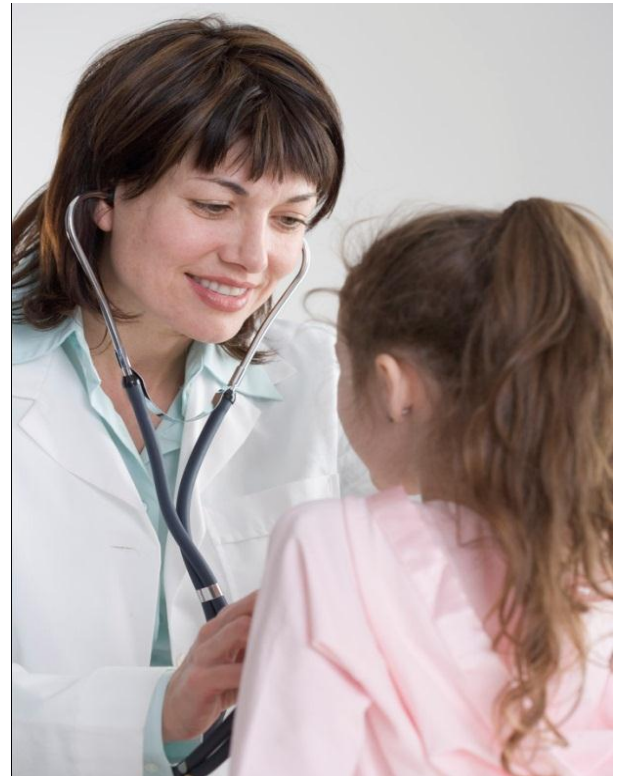
Units: 5.0 - 160 hours laboratory. CSU. (Prerequisite: Graduation from a one-year, CoARC accredited program; active CRT/RCP credential; and 1000+ hours of recent clinical experience.)

A self-paced equivalent of RSPT 232 for students meeting the advanced standing criteria. Successful completion requires demonstration of mastery for the classroom, laboratory and clinical objectives equivalent to RSPT 232.

### **RSPT 243 CLINICAL SIMULATION**

Units: 1.0 - 16-18 hours lecture. (Prerequisite: Satisfactory completion of RSPT 233 with a grade of "C" or better OR RCP/CRT credentials with "registry eligibility" as designated by the NBRC/RCB. )

This course will prepare individuals for the NBRC's WRRT and Clin Sim examinations. Those already certified (CRT) and designated registry eligible by NBRC will be able to review, evaluate, and improve their clinical assessment and decision-making skills and test taking skills.



**RESTAURANT MANAGEMENT**

The Restaurant Management program prepares students for careers in the foodservice industry. Restaurants, hotels, clubs, colleges, retirement homes, hospitals, and industrial food service are but a few of the areas of employment options. Basic food preparation and techniques, nutrition, sanitation and safety are emphasized as the fundamentals for an education foundation of more specialized and advanced skills. Creativity, innovation, and team concepts are strongly encourage. Skills are introduced by emphasizing hands-on, practical experience coupled with strong managerial and accounting subjects.



Locally projected casinos, hotels, and national chain restaurants will increase various employment opportunities to High Desert graduates. Restaurant Management is one of the original partners with the National Restaurant Association Educational Foundation and offers students the opportunity to complete the nationally recognized ManageFirst program. This program is dedicated to the advancement of professionalism in the restaurant and food service industry through education and training. It offers students acknowledgement throughout the United States.

**Career Opportunities**

- Assistant Manager
- Banquet Manager
- Catering Manager
- Chef
- Dietary Assistant
- Dining Room Manager
- Food and Beverage Director
- Foodservice/Restaurant Manager
- Kitchen Manager
- Purchasing Agent

**Faculty**

**Full Time**

- Debbie Peterson, Senior Instructional Assistant
- Emeritus**
- Duane Buckles

**Degrees and Certificates Awarded**

- Associate in Science, Restaurant Management
- Restaurant Management Certificate

**Certificate Program**

**RESTAURANT MANAGEMENT CERTIFICATE**

Units Required: 51.0

The Restaurant Management certificate program gives the student the basic skills and education to become an entry level manager in the food service industry.

**Note: BOLD indicates ManageFirst curriculum. Individual certificates issued by the National Restaurant Association Education Foundation are available in these areas.**

*All of the following must be completed:*

*First Semester:*

RMGT 81	Prep/Line Cook	3.0
<b>RMGT 82</b>	<b>Customer Service</b>	<b>3.0</b>
<b>RMGT 86</b>	<b>Food Service Sanitation</b>	<b>3.0</b>
RMGT 87	Principles of Professional Cooking	3.0

*Second Semester:*

RMGT 83	Kitchen/Dining Room Training	6.0
	<b>and</b>	
	<b>Two</b> academics offered on a rotating basis. Completing two courses from the list below will satisfy the six units required.	

<b>RMGT 88</b>	<b>Management by Menu</b>	<b>3.0</b>
<b>RMGT 89</b>	<b>Purchasing for Foodservice Managers</b>	<b>3.0</b>
<b>RMGT 90</b>	<b>Restaurant Marketing</b>	<b>3.0</b>
<b>RMGT 91</b>	<b>Controlling Foodservice Costs</b>	<b>3.0</b>
<b>RMGT 93</b>	<b>Human Resources Management in the Foodservice Industry</b>	<b>3.0</b>
<b>RMGT 94</b>	<b>Hospitality and Restaurant Management</b>	<b>3.0</b>

*Third Semester:*

RMGT 84	Kitchen/Dining Room Management	6.0
	<b>and</b>	
	<b>Two</b> academics offered on a rotating basis. Completing two courses from the list below will satisfy the six units required.	

<b>RMGT 88</b>	<b>Management by Menu</b>	<b>3.0</b>
<b>RMGT 89</b>	<b>Purchasing for Foodservice Managers</b>	<b>3.0</b>
<b>RMGT 90</b>	<b>Restaurant Marketing</b>	<b>3.0</b>
<b>RMGT 91</b>	<b>Controlling Foodservice Costs</b>	<b>3.0</b>
<b>RMGT 93</b>	<b>Human Resources Management in the Foodservice Industry</b>	<b>3.0</b>
<b>RMGT 94</b>	<b>Hospitality and Restaurant Management</b>	<b>3.0</b>

*Fourth Semester:*

RMGT 85	Advanced Restaurant Management	6.0
	<b>and</b>	
	<b>Two</b> academics offered on a rotating basis. Completing two courses from the list below will satisfy the six units required.	

<b>RMGT 88</b>	<b>Management by Menu</b>	<b>3.0</b>
<b>RMGT 89</b>	<b>Purchasing for Foodservice Managers</b>	<b>3.0</b>
<b>RMGT 90</b>	<b>Restaurant Marketing</b>	<b>3.0</b>
<b>RMGT 91</b>	<b>Controlling Foodservice Costs</b>	<b>3.0</b>
<b>RMGT 93</b>	<b>Human Resources Management in the Foodservice Industry</b>	<b>3.0</b>
<b>RMGT 94</b>	<b>Hospitality and Restaurant Management</b>	<b>3.0</b>

*Summer or Winter Session:*

RMGT 120	Nutrition	3.0
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**Associate Degree**

To earn an Associate of Science degree with a major in Restaurant Management, complete the above Restaurant Management Certificate requirements and meet all Victor Valley College graduation requirements.

**Transfer**

Restaurant Management courses do not usually transfer toward a bachelor's degree program. Students who earn a certificate or degree in Restaurant Management may choose to pursue a bachelor's degree in Hospitality Management or Hotel and Restaurant Management. The following CSU campuses offer degrees in these areas: Cal Poly Pomona, CSU-Long Beach, San Diego State, San Francisco State, and San Jose State.

Visit [www.assist.org](http://www.assist.org) for major preparation requirements.

Students may also wish to explore programs at the California Culinary Academy in San Francisco, or The Culinary Institute of America in New York, which also has a Napa Valley campus (Greystroke) in St. Helena, and a campus in San Antonio, Texas. Another institution is Le Cordon Bleu College of Culinary Arts in Pasadena. These colleges specialize in preparing a student to become a chef.

**RESTAURANT MANAGEMENT COURSES**

**RMGT 1 FOODSERVICE TRAINING: SERVER**

Units: 4.5 - 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.)

This course will provide the student the opportunity to meet the primary role of the server in a foodservice establishment. The responsibility to meet the customer's dining needs is emphasized while maintaining the systems of the restaurant to ensure continued high quality service to all customers and maximize profitability for the operation. These responsibilities are carried out through five functions which are implemented through a number of tasks. This course will not apply to the Associate Degree.

**RMGT 2 FOODSERVICE TRAINING: PREP/LINE COOK**

Units: 4.5 - 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.)

This course will provide the student with the basic and essential training as a prep/line cook. This training includes understanding culinary terminology, proper use of kitchen equipment and hand tools, as well as practical experience. This course will not apply to the Associate Degree.

**RMGT 3 FOODSERVICE TRAINING: HOST/HOSTESS**

Units: 4.5 - 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.)

This course will provide the student the opportunity to develop the skills for a host/hostess position. This includes the primary role to welcome the customer and begin the service experience in a positive way, while maintaining the systems of the restaurant to ensure continued high quality service to all customers and maximize profitability for the operation. This course will not apply to the Associate Degree.

**RMGT 4 FOODSERVICE TRAINING: BUSSER**

Units: 4.5 - 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.)

This course will provide the student with the basic and essential training as a busser to ensure a clean and comfortable dining environment while maintaining the systems of the restaurant to ensure high quality service to all customers and maximize profitability for the operation. This course will not apply to the Associate Degree.

**RMGT 5 FOODSERVICE TRAINING: CASHIER**

Units: 4.5 - 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.)

This course will provide the student with the basic and essential training as a cashier in a foodservice establishment to meet the customer's dining needs, while maintaining the systems of the restaurant to ensure continued high quality service to all customers and maximize profitability for the operation. This course will not apply to the Associate Degree.

**RMGT 6 FOODSERVICE TRAINING: DISHWASHER**

Units: 4.5 - 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.)

This course will provide the student with the basic and essential training as a dishwasher to secure clean and sanitary equipment used in the foodservice establishment while maintaining the systems of the restaurant to ensure high quality service and maximize profitability for

the operation This course will not apply to the Associate Degree.

### **RMGT 7 BAKERY AND PASTRY TRAINING**

Units: 4.5 - 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.)

This course will provide the student the opportunity to achieve maximum results in the development of baking skill and knowledge. The student will learn to produce breads of many types as well as a wide variety of desserts and pastries. This course will not apply to the Associate Degree.

### **RMGT 8 CATERING TRAINING**

Units: 4.5 - 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.)

This course will provide the student the opportunity to understand the concepts involved in catering for banquets. This will include the objective of meeting the client's needs while maintaining the systems of the establishment to ensure continued high quality service and maximum profitability for the operation. This course will not apply to the Associate Degree.

### **RMGT 9 CONCEPTS IN SANITATION**

Units: 0.5 - 24-27 hours lecture. (No prerequisite. Pass/No Pass)

This course provides the student with the safety and sanitation principles of food service. Three areas of potential risk—food safety, responsible alcohol service and employee and customer safety are discussed with a focus on a manager's role in assessing risks, establishing policies and training employees. This course is designed to meet current professional organization certification requirements and prepares the student for the National Food Certification examination (ServSafe). This course will not apply to the Associate Degree.

### **RMGT 75 UNDERSTANDING FISH AND SHELLFISH**

Units: 2.0 - 32-36 hours lecture. (No prerequisite.)

This course will examine the professional techniques of identifying, purchasing, handling, storing and the marketing of fish and shellfish. It also includes identifying, cutting, filleting, and preparing various fish and seafood.

### **RMGT 76 UNDERSTANDING MEATS AND POULTRY**

Units: 2.0 - 32-36 hours lecture. (No prerequisite.)

This course will examine the professional techniques of identifying, purchasing, handling, and storing of various

meats and poultry. It also includes identifying, cutting, filleting, and preparing various meats and poultry.

### **RMGT 80 OFF-PREMISE CATERING**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This is a comprehensive course covering the fundamentals of catering, sales and marketing as it pertains to catering, and production of operations. Subjects covered include corporate catering, styles of service, finance, completion of necessary forms and paperwork related to catering.

### **RMGT 81 PREP/LINE COOK**

Units: 3.0 -32-36 hours lecture and 48-54 hours laboratory. (No prerequisite.)

This course will provide the student with basic and essential training as a prep/line cook. This training includes understanding culinary terminology, proper use experience is gained through activities performed in the lab.

### **RMGT 82 CUSTOMER SERVICE**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite.)

This course will provide the student with the basic and essential training as a server. This training includes understanding customer service, interpersonal communication, identifying customer expectations, as well as payment procedures. Practical training experience is gained through activities performed in the lab.

### **RMGT 83 KITCHEN/DINING ROOM TRAINING**

Units: 6.0 - 32-36 hours lecture and 192-216 hours laboratory. (Prerequisites: RMGT 81, RMGT 82, RMGT 86, RMGT 87.)

This course will instruct the student in the different positions in a kitchen and dining room in the foodservice industry. Actual hands-on experience is gained as students learn by working in a foodservice operation. Students will be required to be team leaders for beginning students in the lab.

### **RMGT 84 KITCHEN/DINING ROOM MANAGEMENT**

Units: 6.0 - 32-36 hours lecture and 192-216 hours laboratory. (Prerequisite: RMGT 83.)

This course will instruct the student to manage kitchen and dining room functions in a foodservice operation. While planning, organizing, coordinating, directing and controlling a foodservice operation, students will supervise teams as part of the training.

**RMGT 85 ADVANCED RESTAURANT MANAGEMENT**

Units: 6.0 - 32-36 hours lecture and 192-216 hours laboratory. (Prerequisite: RMGT 84.)

This course will instruct the student to integrate concepts of management skills learned in previous courses. It introduces a more extensive range of techniques, ingredients, and recipes that all successful managers must understand relating to culinary change and innovation.

**RMGT 86 FOOD SERVICE SANITATION**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

This course provides students with the knowledge to assess risks, establish policies and train employees to assure a safe and sanitary food service.

**RMGT 87 PRINCIPLES OF PROFESSIONAL COOKING**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

This course provides an understanding of cooking theory and develops a set of manual skills with the ability to apply these skills to a wide range of cooking styles and products.

**RMGT 88 MANAGEMENT BY MENU**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

This course will provide the student with a comprehensive look at the menu and its uses in a foodservice operation. All aspects of menu planning from customer demographics to kitchen capabilities, to cost cards and menu analysis are discussed.

**RMGT 89 PURCHASING FOR FOODSERVICE MANAGERS**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

This course will introduce the student to the purchasing function in the foodservice industry. Course content will include purchasing principles and procedures including ordering, contract administration and product specifications.

**RMGT 90 RESTAURANT MARKETING**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

This course examines the concepts, principles and practices involved with marketing a foodservice operation. Students will gain an understanding of how to merchandise and market an establishment to meet the main objective of an operation.

**RMGT 91 CONTROLLING FOODSERVICE COSTS**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

This course will provide the student with the basic cost control standards utilized by foodservice operations to maintain profitability and success. Students will gain an understanding of food costs as well as labor costs and ways to ensure prosperity and increased sales for a foodservice operation.

**RMGT 92 LEGAL ASPECTS OF FOOD SERVICE MANAGEMENT**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

This course focuses on the fundamentals of laws relating to the hospitality industry. Basic components of hospitality law regulations and civil rights, foodservice liability, safety, security, contracts and business law topics are examined.

**RMGT 93 HUMAN RESOURCES MANAGEMENT IN THE FOODSERVICE INDUSTRY**

Units: 3.0 - 48-54 hours lecture. (No prerequisite.)

This course will provide the student the opportunity to explore human resources management and supervision in a foodservice operation. All facets of supervision as it applies to a foodservice operation will be discussed including recruiting, selection, training and development, staffing, benefit programs as well as legal guidelines for all employees.

**RMGT 94 HOSPITALITY AND RESTAURANT MANAGEMENT**

Units: 3.0 -48-54 hours lecture. (No prerequisite.)

This course provides the student with a comprehensive focus on what hospitality managers actually do and the most important challenges facing industry leaders today. The topics include leadership and management, planning, organizing, communication and decision making, motivation and control.

**RMGT 120 INTRODUCTION TO NUTRITION**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite). See cross listing for CHEM 120.

This course focuses on the fundamentals of nutrition as related to the restaurant and food service industry. Course content will include the fundamentals of nutrients, understanding nutrition standards and guidelines, and eating in the United States

**RMGT 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**SOCIAL SCIENCES****Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
Refer to the Social Science teaching credential option listed in CSU-SB's Catalog, or visit [www.assist.org](http://www.assist.org).

**Local Bachelors Program**

For information on the following program located in the High Desert, please visit: [www.vvc.edu/offices/guidance and counseling/](http://www.vvc.edu/offices/guidance%20and%20counseling/) and select "Counseling Information Sheets":

- **Brandman University, Victor Valley Campus**  
*Social Science major*

**SOCIOLOGY**

Sociology offers much to the student who desires to understand the web and rhythm of human behavior. From intimate, personal, and family relationships to international corporation activities; from marginality, deviance and crime to recreation, religion and medicine, few disciplines have such broad scope and relevance.

**Career Opportunities**

(Bachelor's or advanced degree usually necessary.)

Claims Examiner  
Criminologist  
Educator  
Employment/Personnel Specialist  
Interviewer/Researcher  
Law Enforcement/Probation or Corrections Officer  
Public Relations Consultant  
Social Worker/Counselor  
Statistician/Population Analyst  
Urban Planning Consultant  
Youth Counselor/Recreation Specialist

**Faculty****Full Time**

Gene Tashima

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts

**Certificate Program**

No certificates awarded.

**Associate Degree**

No associate degree offered with a major in Sociology. Sociology courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal

Arts. See Liberal Arts for degree requirements for this major. SOC 138 (Cooperative Education) may be used for Elective credit, but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Sociology major*  
*Human Services major*
- **University of California, Riverside**  
*Sociology major*

**Local Bachelors Program**

For information on the following program located in the High Desert, please visit: [www.vvc.edu/offices/guidance and counseling/](http://www.vvc.edu/offices/guidance%20and%20counseling/) and select "Counseling Information Sheets":

- **Brandman University, Victor Valley Campus**  
*Sociology major*

**SOCIOLOGY COURSES****SOC 50 SOCIOLOGY OF PARENTING**

Units: 3.0 - 48-54 hours lecture. (No prerequisite)

This course provides an introduction to the challenges, risks and changes caused by parenthood, the impact of parenting styles on the development of children, the effect of socio-cultural roles in parenting, and the dynamics of adult/child relationships. It further provides strategies, skills and resources to promote healthy family living.

**SOC 101 INTRODUCTION TO SOCIOLOGY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite).

This course is a survey of the various characteristics of social life, the process of social interaction and the tools of sociological investigation. Emphasis is on culture, socialization, and basic institutions.

**SOC 102 AMERICAN SOCIAL PROBLEMS**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

This one semester survey course will focus on identification of major sociological theories, concepts, and perspectives in an analytical approach to the study of social problems in contemporary American society.

**SOC 103 MARRIAGE AND FAMILY LIFE**

Units: 3.0 -48-54 hours lecture. CSU. (No prerequisite)

This course is a survey of analytical and theoretical concepts involved in the sociological study of courtship, marriage and family in American society.

**SOC 107 THE ETHNIC EXPERIENCE IN AMERICAN SOCIETY**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite.)

This is a one semester sociological survey of major racial/ethnic groups in American society. This course will focus on historical experiences and their relationship to contemporary social realities faced by these racial/ethnic groups in American society. It will also investigate their contributions and special experiences as minorities.

**SOC 128 SPECIAL TOPICS**

See Special Topics listing (Variable units). CSU, UC.

**SOC 129 INDEPENDENT STUDY**

See Independent Study listing (1-3 units). CSU

**SOC 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). CSU

**SPANISH**

The study of Spanish has as its goals to explain, evaluate and communicate ideas and concepts by means of reading, writing and verbal processes through creative use of words (literature) and culture (civilization). This study affords insight into foreign attitudes and methods and encourages free communication, written and oral, among people.

**Career Opportunities**

Advertising  
Business  
Education  
Government  
Health Service  
Journalism  
Law Enforcement  
Publishing  
Social Work  
Translating

**Faculty****Full Time**

Cuauhtemoc Franco  
Dolores Hinson  
Martha Vila

**Degrees and Certificates Awarded**

Associate in Arts, Liberal Arts

**Certificate Program**

No certificates awarded.

**Associate Degree**

No associate degree offered with a major in Spanish. Spanish courses may be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Spanish major*
- **University of California, Riverside**  
*Spanish major*

**SPANISH COURSES****SPAN 101 ELEMENTARY SPANISH**

Units: 5.0 - 80-90 hours lecture. CSU, UC. (No prerequisite)

This course provides an introduction to the Spanish language and the culture of its speakers. Fundamentals of pronunciation, structure and Hispanic culture are studied to develop the ability to use and understand basic spoken and written Spanish. Special emphasis is given to development of oral and aural skills by use of the language lab.

#### **SPAN 101A FUNDAMENTALS OF SPANISH 101A**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

This course provides an introduction to the Spanish language and culture. Fundamentals of pronunciation, structure and Hispanic culture are studied. Special emphasis is given to development of oral and aural skills. SPAN 101A and SPAN 101B must be taken to get credit for SPAN 101. Upon completion of SPAN 101A and SPAN 101B, CSU will only accept five units for transfer.

#### **SPAN 101B Fundamentals of Spanish 101B**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (Prerequisite: SPAN 101A with a grade of 'C' or better.)

This course is a continuation of SPAN 101A. It provides an introduction to Spanish language and culture. Fundamentals of pronunciation, structure and Hispanic culture are studied. Special emphasis is given to development of oral and aural skills. SPAN 101A and SPAN 101B must be taken to get credit for SPAN 101. Upon completion of SPAN 101A and SPAN 101B, CSU will only accept five units for transfer.

#### **SPAN 102 Elementary Spanish**

Units: 5.0 - 80-90 hours lecture and 16-18 hours laboratory. CSU,UC. (Prerequisite: Completion of SPAN 101 with a minimum grade of 'C' or SPAN 101A and SPAN 101B.)

This course is a continuation of SPAN 101. Further study of pronunciation, structure and Hispanic culture to develop the ability to use and understand basic spoken and written Spanish. Use of language laboratory is required in order to continue the development of oral and aural skills.

#### **SPAN 103 Intermediate Spanish**

Units: 3.0 - 48-54 hours lecture. CSU,UC. (Prerequisite: Completion of SPAN 102 with a minimum grade of 'C'.)

Provides an expanded review of key grammatical concepts and develops vocabulary with emphasis on composition, reading and discussions in Spanish. Students study Hispanic cultures based on cultural and literary materials.

#### **SPAN 104 Intermediate Spanish**

Units: 3.0 - 48-54 hours lecture. CSU,UC. (Prerequisite: Completion of SPAN 103 with a minimum grade of 'C' or three years of high school Spanish)

A continuation of an expanded review of key grammatical concepts and develops vocabulary with emphasis on composition, reading and discussions in Spanish. Students study Hispanic cultures based on cultural and literary materials.

#### **SPAN 110 Spanish for Spanish Speakers**

Units: 3.0 - 48-54 hours lecture. CSU (No prerequisite. Recommended: Ability to speak Spanish.)

Designed to fulfill the particular needs of bilingual students with special emphasis on the grammar of the language and the development of writing, reading and speaking skills. Conducted in Spanish.

#### **SPAN 125 Conversational Spanish I**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite. Grade Option)

This is the first of two courses covering the essentials of Spanish conversation. It is a basic introductory course which emphasizes oral practice, pronunciation and vocabulary development. It is designed to develop a speaking and understanding knowledge of Spanish for use in everyday conversational situations. This course is designed for non-native speakers of the language.

#### **SPAN 126 Conversational Spanish II**

Units: 3.0 - 48-54 hours lecture. (Prerequisite: SPAN 125 or the ability to speak Spanish with a level of fluency equivalent to completion of SPAN 125. Grade Option.)

This is the second of two courses designed to increase listening comprehension and speech skills in everyday conversational situations in Spanish. Course designed for non-native speakers of the language. This course is an introduction to more complex Spanish structures and grammar with emphasis on the spoken language. CSU.

#### **SPAN 128 Special Topics**

See Special Topics listing (Variable units). CSU, UC.

#### **SPAN 129 Independent Study**

See Independent Study listing ( 1-3 units).

#### **SPAN 130 Conversational Spanish for Healthcare Professionals I**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)



This course is directed towards the needs of nursing and healthcare students, as well as other medical and hospital personnel, who must communicate quickly and effectively with Spanish-speaking patients. Conducted in Spanish and English.

### **SPAN 131 Conversational Spanish for Healthcare Professionals II**

Units: 3.0 - 48-54 hours lecture. (Prerequisite: SPAN 130 with a grade of "C" or higher or consent of instructor. Grade Option.)

This course is a continuation of SPAN 130. It provides intermediate conversational skills for nursing and health-care students as well as other medical and hospital personnel who must communicate quickly and effectively with Spanish-speaking patients. Conducted in Spanish and English.

### **SPAN 135 Spanish for Business**

Units: 3.0 - 48-54 hours lecture. CSU. (No prerequisite)

This course is designed to give students a foundation in Spanish business terminology and prepare them with the knowledge necessary to function in business and professional settings in Spanish speaking countries and where Spanish is used in the U.S. Emphasis will be placed on acquiring basic communication skills and specialized vocabulary for topics related to business and finance. Course is conducted mainly in Spanish.



## **SPECIAL TOPICS COURSES**

### **SPECIAL TOPICS 98-128-148**

Units: 0.5-9.0 - (Prerequisites for Special Topics courses will be in keeping with the California Administrative Code, Title V regulations on open classes, and any prerequisites will be based on terms of performance or specific knowledge necessary to successful performance in the class).

These courses are designed to permit investigation in depth of topics not covered by regular catalog offerings. Course content, hours, and unit credit to be determined by the instructor in relation to community/student interest and/or available staff. May be offered as a seminar, lecture, or laboratory class. Individual course descriptions approved by the Curriculum Committee are on file in Office of Instruction. Special Topics 128 and 148 transfer to CSU, UC. (UC maximum credit allowed: 3.3 semester units per term, 6 units total, in any or all appropriate subject areas combined. Granting of credit by a UC campus contingent on evaluation of course outline.)

## **SPEECH COMMUNICATIONS**

See "Communication Studies"

## **TEACHING**

See "Education"

## **THEATRE ARTS**

Theatre Arts is the essence of the humanities in that it is the only art form that incorporates all the other fine arts into its final product. Our primary goal is to educate the whole person, to emphasize comprehensive education. Everyone should experience the dynamics of theatre, and our ensemble technique teaches cooperation, teamwork, and communication. The skills learned in producing theatre are necessary in every occupational arena.

### **Career Opportunities**

Actor/Actress  
Choreographer  
Costumer  
Makeup Artist  
Publicist  
Scene Designer  
Screenwriter  
Sound Technician  
Stage Director  
Teacher

### **Faculty**

**Full Time**  
Ed Heaberlin  
Steve McDevitt  
John Rude  
Theresa Mirci-Smith

**Degrees and Certificates Awarded**

Associate in Arts, Fine Arts  
Associate in Arts, Liberal Arts

**Certificate Program**

No certificates awarded.

**Associate Degree**

No associate degree offered with a major in Theatre Arts. Theatre Arts courses may be used to fulfill requirements for an Associate in Arts degree with a major in Fine Arts. See Fine Arts for degree requirements for this major. Courses may also be used to fulfill requirements for an Associate in Arts degree with a major in Liberal Arts. See Liberal Arts for degree requirements for this major. TA 138 (Cooperative Education) may be used as Elective credits, but may not be used to fulfill major requirements.

**Transfer**

To pursue a bachelor's degree in this field, here are some schools that have programs that might interest you. For the most up-to-date information on these programs and others, visit [www.assist.org](http://www.assist.org). Please stop by the Transfer Center in Building 55 or make an appointment with a counselor if you have questions.

- **California State University, San Bernardino**  
*Theatre Arts major*
- **University of California, Riverside**  
*Theatre Arts major*

**THEATRE ARTS COURSES****TA 101 Introduction to Theatre**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

An introductory course of the history, the performers, the purpose, and the perspective of theatre. Students will be introduced to the basic forms of theatre and disciplines involved in producing a play. Emphasis is on defining and experiencing the role of theatre in society.

**TA 102 History of Theatre**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A survey course designed to introduce the student to a history of the world's theatrical experiences from primitive times to the present. An examination of the physical theatre and methods of staging drama from the days of the caveman to theatre of the avant-garde.

**TA 104 Oral Interpretation of Literature**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A course designed for the student to learn to interpret literature for an audience. Students will learn and be evaluated on: doing performance analyses, developing relevant introductions, communicating a relevant theme, executing proper character placement and focus, using effective vocal skills, using effective physical involvement. Students will demonstrate proficiency in the above through solo and ensemble class presentations.

**TA 106 Beginning Acting**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

This course is designed to exercise the separate parts of the composite art of acting which include thought, emotion, and specific movement and vocal techniques. Emphasis is placed on pantomime and exercises culminating in scene work. The ultimate goal is to develop a firm foundation in basic acting techniques.

**TA 107 Intermediate Acting**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite.)

This course provides the student an opportunity to enhance acting skills, and to develop and intensify dramatic ability by advancing the understanding of skills presented in Beginning Acting. The student will be introduced to the process of analyzing character through lecture, demonstration, exercises, and the rehearsal and presentation of scenes from published texts.

**TA 109 Rehearsal and Performance Studio**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisite: Qualify for cast at open auditions. TA 106 recommended) This course may be taken four times.

This course will provide study and laboratory exploration in all aspects of play production involving the actor in order to develop his/her acting capabilities, skills, and discipline. The audition, preparation, and presentational phases of the acting process will be explored under the supervision and guidance of a faculty director. Productions will be presented for public performance. Enrollment is for the duration of the preparation and presentation phases of production. May be repeated four times for a maximum of twelve units.

**TA 110 Principles of Design for Theatre**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite.) This course may be taken two times.

An introductory course in design principles as applied to the theatre in the areas of lighting, costuming, makeup, and set design. Students will apply concepts of texture,

line, space, color and perspective to the various design aspects in theatre through specific 2-D and 3-D exercises.

### **TA 111 Technical Stage Production**

Units: 3.0 - 16-18 hours lecture and 96-108 hours laboratory. CSU, UC. (No prerequisite.) This course may be taken four times.

This course is an introduction to the tasks, responsibilities, and skills of stage technicians. Stage managing, construction techniques, stage equipment use, and function of technical stage personnel are introduced to develop the student's design capabilities, skills, and discipline in stage production. Students will serve as technical stage crew members in Theatre Arts Department productions.

### **TA 113 Stage Make-up**

Units: 3.0 - 16-18 hours lecture and 96-108 hours laboratory. CSU. (No prerequisite) This course may be taken three times.

A course designed to introduce the student to the basic techniques and materials of stage make-up. The student will demonstrate understanding through actual make-up, wig, and facial hair applications in the classroom.

### **TA 115 Stagecraft**

Units: 2.0-4.0 - 16-18 hours lecture and 48-54 hours laboratory per unit per term. CSU, UC. (No prerequisite)

An introductory course on the materials, tools, and procedures of all technical phases of scene production including construction, painting, rigging, placement and manipulation of stage scenery, the organization and management of stage activity, and stagecraft terminology. Students are introduced to the fundamentals of set design, construction, painting, and finishing. Course is designed for the beginner and may be repeated four times for a maximum of 16 units.

### **TA 116 Authors of the Theatre**

Units: 3.0 - 48-54 hours lecture. CSU, UC. (No prerequisite)

A survey of playwrights from the Greeks to the present. The selected plays are read, discussed, and analyzed. It is both AA and BA applicable. See cross listing for ENGL 116.

### **TA 117 Technical Theatre: Lighting and Sound**

Units: 3.0 - 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

A basic course in theatre lighting and sound systems including electrical theory, instruments and lamps, light

and sound plots, sound recording, microphones, speakers, etc. Emphasis is on hands-on control and adjustment of the equipment.

### **TA 120 Costuming for the Theatre**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. CSU, UC (No prerequisite) This course may be taken four times.

A basic course in the skills of costuming for the stage and the art of costume design. Repetitions of the course will introduce creation of specialty items, stylistic interpretations, crew management and organization responsibilities.

### **TA 128 Special Topics**

See Special Topics listing (Variable units). CSU, UC.

### **TA 129 Independent Study**

See Independent Study listing ( 1-3 units). CSU

### **TA 138 Cooperative Education**

See Cooperative Education listing (1-8 units). CSU, UC

### **TA 160 Tap I**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Development of basic knowledge and skill in tap dancing, commonly used in musical productions and theater. See cross listing for PED A 160.

### **TA 161 Tap II**

Units: 1.0 - 48-54 hours laboratory. CSU, UC. Student may be required to audition and be approved by instructor for entrance to class. (Grade option) This course may be taken four times.

Development of intermediate knowledge of skill in tap dancing, commonly used in musical productions and theater. See cross listing for PED A 161.

### **TA 166 Ballet I**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of beginning ballet dance. Emphasis on exploring the movement characteristics of ballet through dancing. See cross listing for PED A 166.

### **TA 167 Ballet II**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of secondary level II ballet dance. Emphasis on exploring the movement characteristics of level II ballet through dancing. See cross listing for PED A 167.

**TA 170 Jazz Dance I**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of beginning jazz dance. Emphasis on exploring the movement characteristics of jazz through dancing. See cross listing for PED A 170.

**TA 171 Jazz Dance II**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of level II jazz dance. Emphasis on exploring the movement characteristics of secondary level of jazz through dancing. See cross listing for PED A 171.

**TA 174 Modern Dance I**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of beginning modern dance. Emphasis on exploring the movement characteristics of level I modern dance through dancing. See cross listing for PED A 174.

**TA 175 Modern Dance II**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of secondary level II modern dance. Emphasis on exploring the movement characteristics of secondary level II modern dance through dancing. See cross listing for PED A 175.

**TA 266 Ballet III**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of intermediate level III ballet dance. Emphasis on exploring the movement characteristics of intermediate level III ballet through dancing. See cross listing for PED A 266.

**TA 267 Ballet IV**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of advanced level IV ballet dance. Emphasis on exploring the movement characteristics of advanced level IV ballet dance through dancing. See cross listing for PED A 267.

**TA 270 Jazz Dance III**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of intermediate level III jazz dance. Emphasis on exploring the movement characteristics of intermediate level III jazz through dancing. See cross listing for PED A 270.

**TA 271 Jazz Dance IV**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of level IV jazz dance. Emphasis on exploring the movement characteristics of advanced level IV jazz through dancing. See cross listing for PED A 271.

**TA 274 Modern Dance III**

Units: 1.0 - 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

Technique and style of intermediate level III modern dance. Emphasis on exploring the movement characteristics of intermediate level III modern dance through dancing. See cross listing for PED A 274.

**TA 275 Modern Dance IV**

Units: 1.0 - 48-54 hours laboratory. CSU (No prerequisite. Grade option) This course may be taken four times.

Technique and style of advanced level IV modern dance. Emphasis on exploring the movement characteristics of advanced level IV modern dance through dancing. See cross listing for PED A 275.



**VISUAL COMMUNICATION**

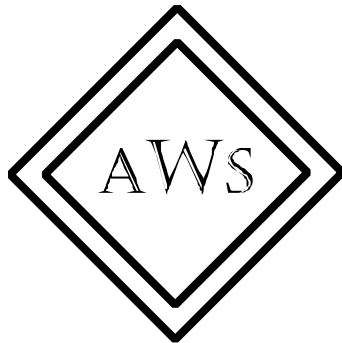
See "Computer Integrated Design and Graphics"

**WELDING**

This program prepares students to enter welding-related occupations, offers retraining for those seeking a new career, and provides an opportunity for those employed in welding occupations to learn new skills and upgrade themselves in their positions.

The department is a member of the American Welding Society's Educational Institution Program for entry level welders and is entitled to all the privileges. This entry level welder program is part of the National Skills Standards Program, which is being enacted across a wide range of industries in the United States.

The program prepares students to pass the written test and welding performance test necessary to acquire a welding license from the Los Angeles Department of Building and Safety. The program offers a certificate of achievement in welding, and an associate degree may be obtained upon completion of 18 units of welding course work in addition to general education.



Educational Institution Member

**Career Opportunities**

- Boilermakers
- Iron Workers
- Maintenance Worker
- Millwrights
- Sheet Metal Workers
- Welder
- Welder-Fitter
- Welding Estimator
- Welding Inspector
- Welding Instructor
- Welding Operator
- Welding Sales Representative
- Welding Service Representative
- Welding Supervisor
- Welding Technician

**Faculty**

**Full Time**

Gary Menser

**Degrees and Certificates Awarded**

Associate in Science, Welding  
Welding Certificate

**Certificate Program**

**WELDING CERTIFICATE**

Units Required: 20.0

The Welding Technology courses included in the certificate program will give the students the skills necessary to become an entry-level combination welder.

*All of the following must be completed:*

WELD 51	Oxyacetylene Welding, Cutting, and Brazing	3.5
WELD 52	Shielded Metal Arc Welding-Basic	3.5
WELD 53	Shielded Metal Arc Welding Advanced	4.0
WELD 57A	Gas Tungsten Arc Welding-Basic	2.0
WELD 57B	Gas Tungsten Arc Welding Advanced	2.0
WELD 58A	Gas Metal Arc Welding-Basic	2.0
WELD 58B	Gas Metal Arc Welding-Advanced	2.0
WELD 59	Welding Symbols and Blueprint Reading	1.0

**Associate Degree**

To earn an Associate in Science degree with a major in Welding, complete 18 units from Welding courses and meet all Victor Valley College graduation requirements. WELD 138 (Cooperative Education) may be used as Elective credit, but may not be used to fulfill major requirements.

**Transfer**

Not a transfer major.

**WELDING COURSES**

**WELD 50 Introduction to Welding**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite)

Survey course in arc and oxyacetylene welding which covers safety practices, use of equipment, and oxyacetylene cutting and braze welding.

**WELD 51 Oxyacetylene Welding, Cutting and Brazing**

Units: 3.5 - 32-36 hours lecture and 72-81 hours laboratory. (No prerequisite)

Develops entry-level skills for the welder in gas welding, braze welding, and cutting.

**WELD 52 Shielded Metal Arc Welding - Basic**

Units: 3.5 - 32-36 hours lecture and 72-81 hours laboratory. (No prerequisite.)

Develops entry-level shielded metal arc welding (SMAW) skills for the welder.

**WELD 53 Shielded Metal Arc Welding – Advanced**

Units: 4.0 - 32-36 hours lecture and 96-108 hours laboratory. (No prerequisite)

Develops skills to produce high quality multi-pass all position groove welds with and without backing.

**WELD 54 Preparation for Welder Certification**

Units: 1.0 - 16-18 hours lecture. (No prerequisite)

This course prepares the welder to take the Los Angeles Department of Building and Safety written examination required for the L.A. City welding license.

**WELD 57A Gas Tungsten Arc Welding – Basic**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite)

Develops entry-level gas tungsten arc welding skills; setting up and adjusting equipment, and in position welding on mild steel, stainless steel, and aluminum.

**WELD 57B Gas Tungsten Arc Welding – Advanced**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite)

Develops advanced gas tungsten arc welding skills in out-of-position welding on mild steel, stainless steel, and aluminum.

**WELD 58A Gas Metal Arc Welding – Basic**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite)

Develops entry-level skills in gas metal arc welding. Specifically develops skills on all position groove and fillet welds, set-up, adjustment and equipment maintenance.

**WELD 58B Gas Metal Arc Welding – Advanced**

Units: 2.0 - 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite)

Develops advanced skills in gas metal arc welding. Specifically develops skills on single-vee groove butt joints in all positions and welder qualification practice.

**WELD 59 Welding Symbols and Blueprint Reading**

Units: 1.0 - 16-18 hours lecture. (No prerequisite)

Develops a technical understanding of engineering drawings and use of information to communicate instructions from the design to the welder and fitter to achieve design objectives.

**WELD 60A/B/C/D Welding Laboratory**

Units: 1.0-2.0 - 48-54 hours of laboratory for one unit of credit. (No prerequisite)

A laboratory class to develop skills in oxyacetylene welding, arc welding, gas tungsten arc welding, flux cored arc welding and welder qualification preparation.

**WELD 98 Special Topics**

See Special Topics listing (Variable units).

**WELD 99 Independent Study**

See Independent Study listing (1-3 units).

**WELD 138 Cooperative Education**

See Cooperative Education listing (1-8 units). CSU



**NONCREDIT CLASSES****BASIC SKILLS/  
EDUCATIONAL UPGRADE COURSES****ACOM 12 Adult Literacy – Units: 0.0**

An open entry/open exit class designed for persons unable to read beyond the 4th grade level. Students will receive individualized instruction.

**ACOM 30 Citizenship Preparation – Units: 0.0**

This course is designed for immigrants eligible for the naturalization process. Topics include U.S. History and civic education. This class will focus on practicing listening and responding to the N-400 application questions, reading and responding to the 100 questions, and writing simple sentences to help pass the naturalization interview.

**ACOM 35G Supervised Tutoring – Units: 0.0**

Open entry/open exit classes designed for students who need individualized instruction.

**BSKL 8A CAHSEE Preparation – English – Units: 0.0**  
32-36 hours lecture and 24-27 hours laboratory.

The course prepares students to take the CAHSEE in English. Students review skills in both reading comprehension and writing skills.

**BSKL 8B CAHSEE Preparation – Math – Units: 0.0**  
32-36 hours lecture and 32-36 hours individualized instruction laboratory.

The course provides supplemental instruction in math in preparation for California High School Exit Exam (CAHSEE).

**ENGLISH AS A SECOND LANGUAGE  
NON-CREDIT (AENG) COURSES****AENG 10.1 ESL Low Beginning Speaking and Listening – Units: 0.0**

This class is for people who do not speak or understand any English. It will focus on oral skills required for managing everyday situations such as apartment problems, transportation, shopping, and medical emergencies. Frequent use of simulation and role play. Strong emphasis on vocabulary development, plus basic grammar.

**AENG 10.2 ESL Low Beginning Reading and Writing – Units: 0.0**

This class is for people who do not read or write any English. It will focus on basic reading and writing skills. Students will learn to read and fill out everyday forms, such as job applications. They will learn the alphabet, basic vocabulary and spelling rules, and also basic grammar.

**AENG 10.3 ESL High Beginning Speaking and Listening – Units: 0.0**

This class continues from AENG 10.1. It is for people who speak and understand a little English. Students will continue to learn new vocabulary and sentence patterns useful in everyday situations.

**AENG 10.4 ESL High Beginning Reading and Writing – Units: 0.0**

This class continues from AENG 10.2. It is for people who read and write a little English. Students will continue to develop reading and writing skills useful for everyday situations, such as reading advertisements and finding and using sources of information.

**AENG 10.4A Review Class for ESL Beginners – Units: 0.0**

This class is for people who completed beginning level English (AENG 10.1-10.4). Students practice reading, writing, listening, and speaking skills that they have already learned. The class focuses on practical, everyday situations such as shopping and work situations.

**AENG 10.5 ESL Low Intermediate Speaking and Listening – Units: 0.0**

This class continues from AENG 10.3. It is for people who already speak and understand English fairly well. In this class students will also learn more sentence structure and grammar useful in a variety of everyday speaking and listening situations. Students will also be introduced to non-verbal communication, as well as certain idiomatic expressions. There will be a strong emphasis on simulation and role play.

**AENG 10.6 ESL Low Intermediate Reading and Writing – Units: 0.0**

This class continues from AENG 10.4. It is for people who already speak and understand English fairly well. Students in this class will continue to develop reading and writing skills in English. They will continue learning grammar and spelling rules, and will write at the sentence level. They will learn to read and respond to simple stories and news articles, and other common forms of written material, such as instructions and simple warranties.

**AENG 10.7 ESL High Intermediate Speaking and Listening – Units: 0.0**

This class is for people who already speak and understand English enough to describe everyday situations, problems, and needs. In this class students will learn more advanced vocabulary, idiomatic expressions, sentence structure, and grammar needed in a variety of specific everyday speaking and listening situations. There will be continued emphasis on simulation and role play.

**AENG 10.7A ESL Intermediate Speaking I – Units: 0.0**

This class is for people who already speak and understand English enough to describe familiar situations, problems, and needs. In this class students will learn more advanced vocabulary, idiomatic expressions, sentence structure, and grammar needed in a variety of communicative situations. Students develop speaking and listening skills needed for success in work and education.

**AENG 10.7B ESL Intermediate Speaking II – Units: 0.0**

This class continues from AENG 10.7A. It focuses on English needed for specific formal situations at school and work such as expressing agreement/disagreement and confronting, and job interviews.

**AENG 10.10 Intermediate Writing II – Units: 0.0**

This class continues from AENG 10.8. Students write compositions on familiar and unfamiliar topics, read short stories, and learn more advanced grammar. This course is useful in preparation for the GED and for college-level writing courses.

**AENG 10.13A Low Intermediate Reading and Vocabulary – Units: 0.0**

A reading course for low intermediate ESL students emphasizing main ideas, outlining, and vocabulary in context. Students should already have basic skills in decoding information and understanding at a literal level. They should be able to read and understand short, authentic texts such as letters and instructions.

## HOME ECONOMICS FOR THE HOMEMAKER (AHOM) COURSES

**AHOM 10 Advanced Clothing Construction – Units: 0.0**

Learn how to handle more advanced fabrics, designer patterns and fitting problems.

**AHOM 20 Beginning Clothing Construction – Units: 0.0**

Designed to teach sewing, equipment use and commercial patterns.

**AHOM 20.1 Intermediate Clothing Construction – Units: 0.0**

A structured class teaching advanced pattern techniques for those with basic sewing knowledge.

**AHOM 30 Home Decorative Art – Units: 0.0**

Specializing in macramé and speed knitting. Designed for all ages over 18 including older adults.

**AHOM 50 Sewing for the Family – Units: 0.0**

Features pattern fitting, use of sewing machine and technology for family clothing needs.

**AHOM 60 Needlecraft/Design – Units: 0.0**

Specializing in basic stitches of knitting and crocheting. A class for beginners as well as intermediate and advanced students.

**AHOM 70 Hand Crafted Items – Units: 0.0**

Craft and small quilting projects for home and personal use.

**AHOM 75 Machine Quilting I – Units: 0.0**

A beginners class designed to teach strip sewing techniques of making quilts quickly and efficiently by machine.

**AHOM 75.1 Machine Quilting II – Units: 0.0**

A continuation of Machine Quilting I for those who desire more complicated patterns of quilts by machine.



**AHOM 82 Interior Design I – Units: 0.0**

A course in the study of color schemes, design, and other topics to introduce this career as well as to help homemakers beautify their home environment.

**AHOM 85 Serger Techniques- Units: 0.0**

Designed to teach basic techniques including threading, tension adjustments, and go on to learn both construction and decorative uses in project construction. Designed for both beginner and more advanced students.

**AHOM 90 Tailoring – Units: 0.0**

Modern tailoring techniques are applied to suits and coats for professional fit and appearance. Advanced clothing construction or equivalent recommended.

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### ADULT PHYSICAL FITNESS (ADPE) COURSES

**ADPE 40 Physical Fitness (Formerly ADPE 60) – Units: 0.0**

An exercise course designed to emphasize fitness by offering the student a variety of exercises and aerobic work. Open to both men and women.

**ADPE 41 Advanced Physical Fitness (Formerly ADPE 61) – Units: 0.0**

Advanced techniques of exercise through use of a variety of controlled exercises. This class is open to both men and women.

**ADPE 80 Adult Tennis – Units: 0.0**

Tennis for adults is fun, offers excellent exercise, and a way to make friends while enjoying tennis. Enhance your tennis skills and quality of life.

**ADPE 90 Hawaiian Dance for Older Adults – Units: 0.0**

Instruction of basic steps of Hawaiian dance, arm movements, terminology, the usage of Hawaiian implements for routines to Hawaiian music. Dance for the older adult offers excellent exercise and a way to make friends while enjoying the class. Enhances mental and physical skills and quality of life.

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### PARENTING (APAR) COURSES

**APAR 10 FOSTER PARENTING – Units: 0.0**

This course is designed to ensure that children's basic needs are met. It will help parents learn to set and record realistic goals and expectations for their child's developmental progress. Students will learn how to effectively communicate with their children. This course will also cover topics such as boundary and limit setting, appropriate consequences, and ways to improve self-esteem.

**APAR 20 EFFECTIVE PARENTING – Units: 0.0**

Learn how to meet and deal with the challenges today of raising children between the ages of 2 to 12 years old.

**APAR 30 SINGLE PARENT LEADERSHIP ACADEMY – Units: 0.0**

Designed as a leadership academy for students in the New Horizons Program. These classes will provide information and instruction on leadership training, present and future trends in the work force, non-traditional jobs for women, values and goal setting, debt management, health issues, cultural diversity, and success in the work place.

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### VOCATIONAL (AVOC) COURSES

**AVOC 12 FOOD SERVICE – Units: 0.0**

This course is designed to provide basic and essential training at the entry level for prep/pantry cook and waitress/waiter. Program will include on-the-job training. Certificates of completion will be issued upon successful completion of course.

**AVOC 40 BUS DRIVER EDUCATION – Units: 0.0**

This course qualifies one to apply for a school bus driver's certificate. There is no behind the wheel training. This class consists of all classroom work.

**AVOC 85 PERSONAL PATTERN DRAFTING I – Units: 0.0**

Students will learn basic fitting techniques by drafting a basic pattern from which other designs can be drafted. Commercial patterns will also be used.