During the spring semester of 2009, Diablo Valley College revised its mission statement to better reflect its commitment to student learning.

Our new mission statement is:

Diablo Valley College is passionately committed to student learning through the intellectual, scientific, artistic, psychological, and ethical development of its diverse student body. Diablo Valley College prepares students for transfer to four-year universities; provides career/technical education; supports the economic development of the region; offers pre-collegiate programs; and promotes personal growth and lifelong learning.

Adopted by the Contra Costa Community College District Governing Board on April 29, 2009
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Meet with a counselor
Because the requirements for a particular major may differ from one CSU campus to the next and because requirements may change yearly, students must consult regularly with a counselor when selecting their courses.

Acceptance of Pass (P) units
Each CSU campus sets its own limits as to the number of P (credit) units it will accept.

Courses that transfer to CSU
All DVC courses, except those listed below, will transfer to CSU. Courses that transfer will receive at least elective credit; check with a counselor for full information on the possible use of these courses toward general education breadth and major requirements.

Courses that will NOT transfer to CSU
- All courses numbered less than 100
- Construction 266, 267
- Dental Hygiene 290, 295
- Electricity 266, 267
- English 105, 110, 116 (transferable if taken prior to F’05), 118 (transferable if taken prior to F’05)
- Library Studies 100
- Plumbing 150
- Mathematics 110, 110SP, 114, 120, 120SP
- Real Estate 150
- Steamfitting 150-279

Impacted programs
The term impacted, when applied to a program or major, means that the program usually attracts many more applicants than it can accept. Consequently, there are special requirements and selection procedures for admission. Students intending to transfer and pursue these majors should consult with a counselor and contact the transfer institution to request its most recent admissions information.
II PROGRAM LEVEL STUDENT LEARNING OUTCOMES

Note: all information in this section has been added to the catalog

ADDITION STUDIES – ADS

Associate in science degrees
Addiction counseling

Students completing the program will be able to...
1. co-facilitate group discussions,
2. create helping strategies and treatment modalities based on a client’s stage of dependence change or recovery,
3. demonstrate an understanding of a variety of addiction treatment models,
4. recognize the importance of social and community services in the treatment and recovery process,
5. demonstrate an understanding of how addiction affects family systems,
6. demonstrate an understanding of various assessment tools, treatment plans and charting protocols,
7. demonstrate an understanding of legal and ethical concerns for workers in the addiction field,
8. demonstrate basic listening skills.

Certificate of achievement
Addiction studies

Students completing the program will be able to...
1. create helping strategies and treatment modalities based on a client’s stage of dependence change or recovery,
2. demonstrate an understanding of a variety of addiction treatment models,
3. recognize the importance of social and community services in the treatment and recovery process,
4. demonstrate an understanding of how addiction affects family systems,
5. demonstrate an understanding of various assessment tools, treatment plans and charting protocols.

Certificate of achievement
Addiction counseling

Students completing the program will be able to...
1. co-facilitate group discussions,
2. create helping strategies and treatment modalities based on a client’s stage of dependence change or recovery,
3. demonstrate an understanding of a variety of addiction treatment models,
4. recognize the importance of social and community services in the treatment and recovery process,
5. demonstrate an understanding of how addiction affects family systems,
6. demonstrate an understanding of various assessment tools, treatment plans and charting protocols,
7. demonstrate an understanding of legal and ethical concerns for workers in the addiction field,
8. demonstrate basic listening skills.

ADMINISTRATION OF JUSTICE – ADJUS

Associate in science degree
Administration of justice

Students completing the program will be able to...
1. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate,
2. demonstrate a working knowledge of the theory and practice of criminal law,
3. demonstrate an understanding of the legal procedures of the United States and California criminal justice systems.

Certificate of achievement
Administration of justice

Students completing the program will be able to...
1. demonstrate a working knowledge of the basic components of the criminal justice system,
2. demonstrate a working knowledge of the theory and practice of criminal law,
3. demonstrate an understanding of the legal procedures of the United States and California criminal justice systems.

Certificate of accomplishment
Administration of justice - Community relations specialist

Students completing the program will be able to...
1. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate,
2. demonstrate an understanding of the history, culture, organization of criminal gangs and their social and criminal impact upon society.

Certificate of accomplishment
Administration of justice - Correctional specialist

Students completing the program will be able to...
1. demonstrate familiarity with the basic components of the criminal justice system with special emphasis on the correctional system,
2. demonstrate an understanding of the history, culture, organization of criminal gangs and their social and criminal impact on society,
3. apply techniques of written and oral communication with special emphasis on case work and counseling as used by practitioners in the administration of justice field with special emphasis on probation and parole.

Certificate of accomplishment
Administration of justice - Crime scene investigator

Students completing the program will be able to...
1. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate,
2. identify, collect, package and analyze physical evidence from a crime scene,
3. conduct a successful criminal investigation using interviews, interrogation and case preparation.

Certificate of accomplishment
Administration of justice - Criminal law specialist

Students completing the program will be able to...
1. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate,
2. demonstrate a working knowledge of the theory and practice of criminal law,
3. demonstrate an understanding of the legal procedures of the United States and California criminal justice systems.

Certificate of accomplishment
Administration of justice - Juvenile counseling

Students completing the program will be able to...
1. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate,
2. demonstrate an understanding of the history, culture, organization of criminal gangs and their social and criminal impact on society,
3. demonstrate a working knowledge of the organization, functions and jurisdiction of juvenile agencies and processing and detention of juveniles.

Certificate of accomplishment
Administration of justice - Patrol specialist

Students completing the program will be able to...
1. demonstrate an understanding of the three parts of the criminal justice system and how they interrelate,
2. gather, organize and prepare written reports for law enforcement and correctional activities,
3. demonstrate proficiency with handguns and shotguns, an understanding of personal safety and defensive tactics and their legal ramifications.

Certificate of achievement
Photovoltaic systems

Students completing the program will be able to...
1. qualify for employment in the photovoltaic industry or a related field,
2. install a ground-mounted photovoltaic system,
3. design a roof-mounted photovoltaic system.

Certificate of achievement
Photovoltaic systems

Students completing the program will be able to...
1. install a ground-mounted photovoltaic system,
2. install a roof-mounted photovoltaic system,
3. design a roof-mounted photovoltaic system.

ALTERNATE ENERGY TECHNOLOGIES – AET

Associate in science degree
Photovoltaic systems

Students completing the program will be able to...
1. qualify for employment in the photovoltaic industry or a related field,
2. install a ground-mounted photovoltaic system,
3. design a roof-mounted photovoltaic system.

Certificate of achievement
Photovoltaic systems

Students completing the program will be able to...
1. install a ground-mounted photovoltaic system,
2. install a roof-mounted photovoltaic system,
3. design a roof-mounted photovoltaic system.

ARCHITECTURE – ARCHI

The 6 learning outcomes below are valid for all degrees and certificates in Architecture.

Students completing the program will be able to...
1. communicate architectural concepts using graphic conventions and representational methods,
2. demonstrate an understanding of drawing methods and graphic compositional techniques,
3. construct physical models of architectural elements and spaces,
4. demonstrate an understanding of building components, structures and systems in relation to design,
5. identify notable architects, design concepts, canonical buildings and precedents in architecture,
6. identify the historical and contemporary role of architects in the profession and related design fields.

**Associate in science degree**  
Architecture design

**Associate in science degree**  
Architecture technology

**Certificate of achievement**  
Architecture technology

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**ART DIGITAL MEDIA – ARTDM**

**Associate in arts**  
Art digital media

**Students completing the program will be able to...**
1. demonstrate an understanding of basic drawing techniques,
2. produce a digital image from scanned or digital photographs,
3. utilize digital images for exports to websites, multimedia presentations, and print,
4. utilize production tools for digital audio for multimedia projects,
5. demonstrate basic techniques for video capture and editing,
6. design a multimedia project,
7. critically evaluate multimedia design techniques and their use in the development of a professional portfolio,
8. qualify for entry-level employment in the art digital media field.

**Certificate of achievement**  
Art digital media - Character animation

**Students completing the program will be able to...**
1. design a character based on a written description,
2. present an animation containing the elements of a fully developed cartoon,
3. produce a storyboard utilizing the principles of sequential art,
4. develop observational skills in drawing the human figure.

**Certificate of achievement**  
Art digital media - Digital audio

**Students completing the program will be able to...**
1. utilize production tools for digital audio for multimedia projects,
2. apply various audio file formats,
3. produce recorded music projects.
**BROADCAST COMMUNICATION ARTS – BCA**

The 11 learning outcomes below are valid for all degrees and certificates in Broadcast Communication Arts.

Students completing any program will be able to...

1. produce for broadcast and digital distribution utilizing three-camera studio format principles (except Basic Digital Field Production and Basic Writing for Digital Medium),
2. operate cameras and professional sound equipment (except Basic Writing for Digital Medium),
3. perform digital nonlinear editing (except Basic Writing for Digital Medium),
4. produce still and motion graphics (except Basic Writing for Digital Medium),
5. produce for broadcast and digital distribution utilizing field production principles (except Basic Studio Production and Basic Writing for Digital Medium),
6. write scripts for various production formats,
7. direct projects for various production formats,
8. transfer to four-year institutions majoring in broadcast communication arts,
9. qualify for entry-level employment in broadcasting,
10. apply their planning skills for project management,
11. identify major trends in the history of broadcasting.

**ASSOCIATE IN ARTS DEGREE**
Broadcast communication arts

**CERTIFICATE OF ACHIEVEMENT**
Broadcast communication arts

**Certificate of accomplishment**
Broadcast communication arts - Basic digital field production

**Certificate of accomplishment**
Broadcast communication arts - Basic studio production

**Certificate of accomplishment**
Broadcast communication arts - Basic writing for digital medium

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**BUSINESS – BUS**

**Associate in arts degree**
Business transfer

Students completing the program will be able to...

1. develop business communications that present information in an organized and concise manner, using acceptable grammar and language arts,
2. explain the functions of business financial operations and apply them to business case problems,
3. evaluate an existing business and identify the business organization, key business procedures relevant to an specific problem using appropriate technology,
4. compare and contrast ethical approaches and social responsibility options in business situations.

**Certificate of achievement**
Business - core transfer

Students completing the program will be able to...

1. develop business communications that present information in an organized and concise manner, using acceptable grammar and language arts,
2. explain the functions of business financial operations and apply them to business case problems,
3. evaluate an existing business and identify the business organization, key business procedures relevant to an specific problem using appropriate technology,
4. compare and contrast ethical approaches and social responsibility options in business situations.

**Certificate of accomplishment**
Business essentials

Students completing the program will be able to...

1. apply standard business English to oral and written communication, including grammar, punctuation, mechanics, vocabulary, style and usage,
2. complete business-related mathematical problems with reasonable speed and accuracy, both manually and using calculators and business software,
3. analyze basic business documents and financial statements to detect business problem,
4. interpret a research need, determine the type and scope of information needed, and implement effective research strategies including the Internet.

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**BUSINESS ACCOUNTING – BUSAC**

**Certificate of achievement**
General Accounting

Students completing the program will be able to...

1. produce accurate financial statements for a company and communicate a company’s financial position,
2. construct basic accounting documents and solve case problems related to the accounting cycle utilizing appropriate technology,
3. analyze existing documents by verifying the accuracy of information for a company and performing necessary reconciliation,
4. compare and contrast the financial information prepared for different types of business entity.

BUSINESS INFORMATION MANAGEMENT – BUSIM

Certificate of achievement
Office professional
Students completing the program will be able to...
1. apply standard business English to oral and written communication, including grammar, punctuation, mechanics, vocabulary, style and usage,
2. complete business-related mathematical problems with reasonable speed and accuracy, using calculators and business software,
3. interpret an information technology need, determine the type and scope of solution needed, and implement an effective strategy to address the need,
4. identify appropriate information compilation, reporting, storage and retrieval systems for common business situations, using manual and technological approaches.

Certificate of accomplishment
Office professional essentials
Students completing the program will be able to...
1. apply standard business English to oral and written communication, including grammar, punctuation, mechanics, vocabulary, style and usage,
2. complete business-related mathematical problems with reasonable speed and accuracy, both manually and using calculators and business software,
3. analyze common business documents and financial statements to detect business problems,
4. interpret an information technology need, determine the type and scope of application needed, and implement an effective strategy to meet the need.

BUSINESS MANAGEMENT – BUSMG

Certificate of achievement
Management studies
Students completing the program will be able to...
1. integrate basic management theories into supervisory and management functions,
2. investigate current management practices and problems related to human behavior in organizations,
3. differentiate threshold issues involved in the legal, ethical, and social responsibilities of management,
4. summarize measures that can be taken by individuals and organizations to correct organizational problems.

Certificate of achievement
Small business management
Students completing the program will be able to...
1. describe the nature and characteristics of successful small business persons,
2. summarize the responsibilities of small business owners in selecting, motivating, training, and supervising employees,
3. compare the relationship between a small business and its customers in relation to gaining a competitive advantage,
4. construct a business plan and essential financial documents for a small business.

BUSINESS REAL ESTATE – RE

Certificate of achievement
Real estate
Students completing the program will be able to...
1. explain the functions of real estate markets, real estate practices, and real estate institutions, and recommend choices for common real estate situations,
2. demonstrate how to calculate the time value of money and evaluate various financing alternatives for real estate investment strategies,
3. evaluate real estate development opportunities in the commercial real estate markets for residential, warehouse, retail, and industrial properties,
4. research and analyze specific case problems related to real estate investment and present solutions.

CHINESE – CHIN

Certificate of achievement
Mandarin Chinese
Students completing the program will be able to...
1. comprehend a spoken dialogue in the target language.
2. identify the present, past and future tenses in a written paragraph.
3. interpret cultural behavior.

COMPUTER INFORMATION SYSTEMS – CIS

The 9 learning outcomes below are valid for all degrees and certificates in Computer Information Systems.

Students completing any program will be able to...
1. perform the duties of information technologies and management workers as identified by the Bureau of Labor Statistics,
2. provide technical assistance and training to computer system users,
3. investigate and resolve computer software and hardware problems of users,
4. perform the professional duties demanded in any modern office environment,
5. design and maintain static and dynamic web sites,
6. integrate elements such as graphics, animation and streaming media on web sites,
7. develop and implement database systems for stand alone or internet based deployment,
8. use technology to manage multi-faceted projects,
9. demonstrate basic graphical user interface operations in a computer environment.

Associate in science
Computer information systems
In addition, students completing this program will be able to...
1. produce spreadsheets, documents and presentations by using basic to advanced software operations.

Certificate of achievement
Core
In addition, students completing this program will be able to...
1. produce spreadsheets, documents and presentations by using basic to advanced software operations.

Certificate of achievement
Web technology
In addition, students completing this program will be able to...
1. produce spreadsheets, documents and presentations by using basic to advanced software operations,
2. plan and design web pages.

Certificate of achievement
Web graphics
In addition, students completing this program will be able to...
1. prepare images for sharing and distribution.

Certificate of achievement
Database management
In addition, students completing this program will be able to...
1. apply database syntax, properties, operators, and functions.

Certificate of achievement
Project management
In addition, students completing this program will be able to...
1. apply the principles of the Project Management Institute’s (PMI) processes of project management.

COMPUTER NETWORK TECHNOLOGY – CNT

The 4 learning outcomes below are valid for all degrees and certificates in Computer Network Technology.

Students completing the program will be able to...
1. list and describe the key TCP/IP protocols,
2. secure a Microsoft Windows network,
3. build a computer,
4. install and configure Microsoft Windows Server Operating System.

Associate in science degree
Microsoft Windows system administration

Certificate of achievement
Microsoft Windows system administration

COMPUTER SCIENCE – COMSC

The 4 learning outcomes below are valid for the associate degree and the certificate of achievement in computer and information science.

Students completing the program will be able to...
1. create computer programming solutions using either C++ or Java,
2. read and write programs written in x86 assembly language, and interface them with C++ programs,
3. effectively use either the C++ Standard Template Library or the Java util package to manage data structures in programs,
4. make the right choices of language, platform, data structures, and databases for a computer programming solution based on their knowledge of the elements of program design.

**Associate in science degree**
Computer science

**Certificate of achievement**
Computer and information science

**Certificate of achievement**
Microcomputer software support

Students completing the program will be able to...
1. communicate effectively in a typical office environment through written and verbal media,
2. apply the basic vocabulary of computer technology and information systems,
3. use word processing, spreadsheet, presentation, and database software to communicate effectively and professionally,
4. demonstrate basic mathematical skills in problem solving,
5. write instructions for using applications,
6. provide training on the use of software and computer systems.

**CONSTRUCTION – CONST**

**Certificate of achievement**
Construction and building inspection

Students completing the program will be able to...
1. interpret the codes related to the construction industry,
2. identify code-compliant construction in buildings,
3. identify types of zoning used in a jurisdiction,
4. write knowledgeable correction notices,
5. apply construction terminology,
6. identify the effects of various governmental agencies involved in the construction industry on a construction project,
7. interpret blueprints and specifications.

**Certificate of achievement**
Construction management

Students completing the program will be able to...
1. estimate materials cost (quantity survey),
2. apply construction terminology,
3. schedule sequences of construction projects,
4. identify the effects of various governmental agencies involved in the construction industry on a construction project,
5. interpret blueprints and specifications.

**Certificate of achievement**
Construction supervision and superintendency

Students completing the program will be able to...
1. estimate materials cost (quantity survey),
2. apply construction terminology,
3. schedule sequences of construction projects,
4. identify the effects of various governmental agencies involved in the construction industry on a construction project,
5. interpret blueprints and specifications,
6. utilize instruments used in surveying.

**COMPUTER TECHNICAL SUPPORT – COMTC**

The 3 learning outcomes below are valid for all degrees and certificates in Computer Technical Support.

Students completing the program will be able to...
1. troubleshoot and repair computer hardware problems,
2. troubleshoot and repair computer software problems related to operating systems, application programs and printer systems,
3. troubleshoot and repair computer network problems.

**CUlINAry ARts – CULN**

**Certificate of achievement**
Baking and pastry

Students completing the program will be able to...
1. explain and apply baking/pastry terms and procedures appropriately,
2. select, organize, and analyze ingredients used in baking and pastry production,
3. select, recognize, and utilize equipment and tools used in baking and pastry production,
4. scale and measure ingredients properly,
5. produce an array of bakery and pastry products,
6. evaluate quality standards in baking and pastry products in written and oral form.
Certificate of achievement
Culinary arts
Students completing the program will be able to...
1. demonstrate the proper application of dry, moist, and combination cooking methods to a variety of food products,
2. demonstrate current food service sanitation procedures,
3. prepare and serve food according to professional industry standards,
4. calculate costs and apply procedures in order to run a cost effective food service establishment,
5. create menus that incorporate menu planning principles that maximize sales and profits,
6. produce a variety of bakery products using standard baking procedures and evaluate the products based on method, timing, appearance, texture, cell structure and overall eating quality,
7. demonstrate the ability to work as an effective member of a production team.

Certificate of achievement
Restaurant management
Students completing the program will be able to...
1. identify and explain factors that determine quality food,
2. explain the theory of yield management as it relates to lodging operations,
3. present ideas and concepts in written and oral form,
4. calculate cost and apply procedures in order to run a cost effective foodservice establishment.

DENTAL ASSISTING – DENTL
The 3 learning outcomes below are valid for all degrees and certificates in Dental Assisting.

Students completing the program will be able to...
1. attain their dental X-ray license,
2. qualify to sit for the State of California Board written and practical RDA exam,
3. qualify to sit for their National Board examinations to become a certified dental assistant.

Associate in science degree
Dental assisting
Certificate of achievement
Dental assisting

DENTAL HYGIENE – DENHY
The 5 learning outcomes below are valid for all degrees and certificates in Dental Hygiene.

Students completing the program will be able to...
1. synthesize knowledge from all branches of learning to provide preventive, educational, collaborative, and therapeutic dental hygiene care for individuals and groups in a variety of settings,
2. develop a desire and ability to provide dental hygiene care applying the highest moral, ethical and legal principles including those outlined by the American Dental Hygienists’ Association and the American Dental Association,
3. function in the professional dental hygiene roles of the clinician, health promoter/educator and change agent,
4. develop and maintain professional competence founded in evidence-based decision-making and continued education while promoting personal and professional growth,
5. promote client and community satisfaction with the quality of the dental hygiene education and care process provided by the program.

Associate in science degree
Dental hygiene
Certificate of achievement
Dental hygiene

DENTAL LABORATORY TECHNOLOGY – DENTE
The 6 learning outcomes below are valid for all degrees and certificates in Dental Hygiene.

Students completing the program will be able to...
1. qualify for positions as dental technicians in the commercial lab industry as well as in dentists offices as in-house dental technicians,
2. demonstrate knowledge in the fabrication of a variety of dental inlays, onlays and ceramic restorations,
3. comprehend and interpret dental terminology as well as the dentist prescriptions,
4. demonstrate skills in the development of prostodontic appliances and perform denture relines and a variety of denture repairs,
5. demonstrate knowledge in cusp-to-fossae relationships and concepts of occlusion and malocclusions,
6. demonstrate knowledge in the manipulation of a variety of gypsum products such as plaster, die stone, yellow stone and investment products (high heat) and (low heat).
Associate in science degree  
Dental laboratory technology

Certificate of achievement  
Dental laboratory technology

DRAMA – DRAMA

The 3 learning outcomes below are valid for all degrees and certificates in Drama.

Students completing the program will be able to...
1. demonstrate the basic skills required in the craft of theater,
2. articulate the creative process of theatrical tasks,
3. exhibit the unique collaborative skills necessary to participate in a theater community.

Associate in arts degree  
Technical theater

Certificate of achievement  
Technical theater

EARLY CHILDHOOD EDUCATION – ECE

The 9 learning outcomes below are valid for the below 5 degrees and certificates in Early childhood education.

Students completing the program will be able to...
1. identify major childhood development milestones,
2. analyze the psychological, physical, and cognitive influences on human development,
3. demonstrate knowledge of developmentally appropriate practices in early childhood education,
4. demonstrate familiarity with community agencies which support contemporary family life,
5. apply strategies to maximize the health, safety and nutrition of children and adults in programs for young children,
6. examine constructivist and emergent curriculum theories,
7. identify biases and preconceptions that influence effective child care,
8. communicate effectively and responsibly with children and adults in diverse populations,
9. plan, implement and evaluate developmentally appropriate curriculum experiences for young children.

Associate in science degree  
Early childhood education

In addition, students completing this program will be able to...
1. evaluate personal teaching competencies to guide and inform practice,
2. integrate knowledge of children’s development and needs into early childhood environments.

Certificate of achievement  
Early childhood education - Basic

Certificate of achievement  
Early childhood education - Master teacher

In addition, students completing this program will be able to...
1. recognize and support developmental stages in teacher training,
2. demonstrate sensitivity to and awareness of diversity in adult learners.

Certificate of achievement  
Early childhood education - Site supervisor

In addition, students completing this program will be able to...
1. recognize and support developmental stages in teacher training,
2. demonstrate sensitivity to and awareness of diversity in adult learners,
3. apply ethical code to practices and policies,
4. examine theory and methodology for effective supervision of personnel.

Certificate of achievement  
Early childhood education - Teacher

Certificate of achievement  
Early childhood education - Family daycare provider/foster care provider/in-home childcare provider

Students completing the program will be able to...
1. identify major childhood development milestones,
2. apply strategies to maximize the health, safety, and nutrition of children and adults in programs for young children,
3. demonstrate familiarity with community agencies which support contemporary family life.

Certificates of accomplishment  
Early childhood education - Associate teacher

Students completing the program will be able to...
1. identify major childhood development milestones,
2. analyze the psychological, physical, and cognitive influences on human development,
3. demonstrate knowledge of developmentally appropriate practices in early childhood education,
4. demonstrate familiarity with community agencies which support contemporary family life.

Certificate of accomplishment
Early childhood education - Resource (foster) family specialist

Students completing the program will be able to...
1. identify the role that California Children and Family Services plays in the life of resource family,
2. identify the role that California Children and Family Services plays in the life of a child in out-of-home placement,
3. apply appropriate behavior management techniques for children in their care.

ELECTRICAL/ELECTRONICS TECHNOLOGY – ELECT/ELTRN

The 3 learning outcomes below are valid for all degrees and certificates in Electrical/Electronics Technology.

Students completing the program will be able to...
1. solve electrical circuit problems using Ohm’s law,
2. build and troubleshoot electrical/electronics circuits at an apprenticeship level,
3. program Programmable Logic Controllers (PLCs).

Associate in science degree
Electrical/electronics technology

Certificates of achievement
Electrical/electronics technology

ENGINEERING AND ENGINEERING TECHNOLOGY – ENGIN

Associate in science degree
Civil Design Drafting Technology

Students completing the program will be able to...
1. use technical drafting principles to develop technical drawings,
2. interpret construction blueprints,
3. use geometric construction and descriptive geometry to solve geometric problems,
4. create 2-dimensional and 3-dimensional Computer Aided Drawings (CAD),
5. interpret Global Positioning data,
6. measure land forms using ground surveying equipment,
7. apply trigonometry to math problems,
8. apply the basic laws of physics to everyday situations.

Certificate of accomplishment
Drafting with CAD

Students completing the program will be able to...
1. create 2-dimensional and 3-dimensional Computer Aided Drawings (CAD),
2. interpret construction blueprints and architectural plans (with Option A: civil engineering emphasis),
3. calculate data collected from land surveying (with Option A: civil engineering emphasis),
4. interpret simple technical drawings (with Option B: manufacturing emphasis),
5. construct 3-Dimensional models using parametric software (with Option C: CAD design emphasis).

The 5 learning outcomes below are valid for the below degrees and certificates in Mechanical Drafting.

Students completing the program will be able to...
1. prepare, interpret and revise technical drawings using computer aided drafting (CAD) and design software,
2. use geometric dimensioning and tolerancing according to ANSI standards,
3. develop CAD drawings using geometric construction and descriptive geometry,
4. perform basic machine processes,
5. identify the role of computers and CAD in mechanical drafting.

Certificate of achievement
Mechanical Drafting, CAD

Certificate of achievement
Mechanical Design Drafting Technology

ENGLISH – ENGL

Associate in arts
English
Students completing the program will be able to...
1. demonstrate knowledge of and familiarity with the methods of interpreting literature across the genres,
2. assess, evaluate, and analyze ideas expressed in text or in spoken language,
3. create (write or present) coherent arguments that evidence clear prose and synthesize diverse bodies of knowledge.

FRENCH – FRNCH

Certificate of achievement
French
Students completing the program will be able to...
1. comprehend a spoken dialogue in the target language,
2. identify the present, past and future tenses in a written paragraph,
3. interpret cultural behavior.

GEOGRAPHY – GEOG

Associate in arts degree
Social/Cultural Geography
Students completing the program will be able to...
1. describe the spatial organization of the world’s peoples, nations, cultural environments,
2. compare and contrast the levels of economic development and their underlying environmental and cultural factors,
3. demonstrate a global view with appreciation for diverse cultures and societies.

Associate in science degree
Meteorology
Students completing the program will be able to...
1. describe the structure and properties of the atmosphere and atmospheric circulation systems,
2. develop and explain a forecast in the short to medium time range,
3. demonstrate the ability to apply atmospheric studies to interdisciplinary and practical applications for commercial and public needs.

Associate in science degree
Physical Geography
Students completing the program will be able to...
1. demonstrate proficiency in the use of field data collection and mapping techniques,
2. compare and contrast the interactions between the natural environment and human activities,
3. demonstrate a grounding in the modern technical skills of the discipline, including computer cartography, geographic information systems and global positioning systems.

The 3 learning outcomes below are valid for all of the following degrees and certificates in Geography

Students completing the program will be able to...
1. analyze the inter-disciplinary applications of GIS, GPS, and remote sensing,
2. synthesize data from various sources and different formats for spatial analyses,
3. apply spatial tools and techniques in a research or work environment.

Certificate of achievement
Geographic information systems/Global positioning system

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Certificate of accomplishment
Geographic information systems/Global positioning system

GERMAN – GRMAN

Students completing the program will be able to...
1. comprehend a spoken dialogue in the target language.
2. identify the present, past and future tenses in a written paragraph.
3. interpret cultural behavior.

HEALTH SCIENCE – HSCI

Associate in science
Behavioral Health

Students completing the program will be able to...
1. apply a multi-dimensional approach to health that incorporates the study of social, behavioral and physiological sciences,
2. identify risk factors for disease and disability,
3. analyze the psychological, physical, social, sexual, and environmental influences on health and wellness,
4. demonstrate behavior-changing techniques to maximize health and wellness,
5. identify jobs for health educators such as Workplace Wellness Programs, County Health Department, Hospital/Health Insurance Health Education Center, State or University Health Center, Planned Parenthood, or any health club that offers health education information,
6. pursue specialized occupations in the health profession, such as the above stated,
7. pursue baccalaureate degrees useful in the field of health education.

HORTICULTURE – HORT

Certificate of achievement
Horticulture

Students completing the program will be able to...
1. apply their knowledge of plants to the landscape setting,
2. apply their knowledge of the environment to the landscape setting,
3. predict plant outcomes,
4. appraise available career paths

Certificate of achievement
Landscape Construction

Students completing the program will be able to...
1. prepare, model and contour ground prior to planting,
2. stake and plant a tree,
3. plant shrubs from a design plan,
4. design and plant a winter or spring bedding scheme,
5. recognize the features and use of the following displays: annuals, perennials, and bulbs.

Certificate of achievement
Landscape Design

Students completing the program will be able to...
1. develop fundamental designer and client communication techniques,
2. perform a site analysis and inventory,
3. measure a site, calculate site slope and relationship to site structures,
4. recognize and develop a personal landscape design process,
5. create presentations through graphic sketching and drafting,
6. identify plant and non-plant material suitable for specific site design,
7. produce a portfolio and related documents necessary to enter the marketplace.

Certificate of achievement
Landscape Maintenance

Students completing the program will be able to...
1. know how to control weed,
2. maintain and use a lawnmower and demonstrate safe working practices,
3. demonstrate the following skills: pruning, training, trimming,
4. recognize and control common pests and diseases,
5. identify areas requiring maintenance,
6. understand the use of different types of herbicides, pesticides and fertilizers.

HUMANITIES – HUMAN

Associate in arts in letters and science
Humanities

Students completing the program will be able to...
1. use their critical thinking skills to analyze and evaluate both formally and contextually, a variety of creative works and literary documents,
2. compare and contrast the historic meaning and impact of works selected from the various arts, and from philosophic and religious literature,
3. recognize and explain the integration of arts and ideas in selected cultural, historical, and thematic contexts,
4. demonstrate their ability to articulate clearly in oral and written form objective analyses of major works from the various arts, and from philosophic and religious literature.
ITALIAN – ITAL

Certificate of achievement
Italian
Students completing the program will be able to...
1. comprehend a spoken dialogue in the target language.
2. identify the present, past and future tenses in a written paragraph.
3. interpret cultural behavior.

JAPANESE – JAPAN

Certificate of achievement
Japanese
Students completing the program will be able to...
1. comprehend a spoken dialogue in the target language.
2. identify the present, past and future tenses in a written paragraph.
3. interpret cultural behavior.

LIBRARY STUDIES – L AND LS

The 7 learning outcomes below are valid for all degrees and certificates in Library Studies.

Students completing the program will be able to...
1. explain library fundamental principles including intellectual freedom, open access, diversity, and patron privacy and confidentiality,
2. apply knowledge and skills gained through the coursework to perform library technician level tasks,
3. describe the characteristics of libraries and the roles of libraries in a diverse, multicultural, and democratic society, and how these needs can be met,
4. apply the basic principles and standardized systems of ordering, cataloging, classifying, processing, and maintaining library materials and resources,
5. demonstrate the workplace communication skills necessary to successfully interact with users and staff in the library and other information services,
6. identify and use the technologies found in the library and other information services,
7. analyze information critically to draw conclusions and/or solve problems when working with patrons, materials, and technology.

Associate in science degree
Library and information technology

Certificate of achievement
Library and information technology
Students completing the program will be able to...

MACHINE TECHNOLOGY – MATEC

Certificate of achievement
Machine technology
Students completing the program will be able to...
1. identify the role and responsibilities of machine technicians,
2. demonstrate an ability to use precision measuring devices,
3. identify common machine tools used in fabrication,
4. interpret technical documents and specifications,
5. cut, process and/or fabricate materials to specified forms and dimensions.

MATHEMATICS – MATH

Associate in arts degree
Mathematics
Students completing the program will be able to...
1. solve problems in linear algebra and differential and integral calculus, both single and multivariable,
2. recognize, explain, and apply basic techniques of mathematical proof,
3. utilize skills from calculus and post-calculus mathematics to solve mathematical problems from sciences such as physics, chemistry, engineering, or computer science.

MUSIC – MUSIC

Certificate of achievement
Music
Students completing the program will be able to...
1. produce recorded music projects,
2. protect intellectual property rights,
3. demonstrate the professional behaviors of participation and time management required in the music industry.
**PHYSICAL EDUCATION THEORY – PETHE**

The 4 learning outcomes below are valid for the 2 following degrees and certificates in Physical Education Theory.

Students completing the program will be able to...
1. develop practice plans, analyze strategy and teach techniques specific to a chosen sport,
2. incorporate concepts of an athlete’s psychological and physical health to improve performance,
3. qualify for employment as an effective coach of youth, high school, and/or adult sports (certificate),
4. apply for transfer to a four-year institutions in such disciplines as kinesiology, exercise science and/or a teacher credential program (degree only).

**Associate in science degree**
Coaching

**Certificate of achievement**
Coaching

The 4 learning outcomes below are valid for the 2 following degrees and certificates in Physical Education Theory.

Students completing the program will be able to...
1. conduct assessment of personal fitness levels,
2. develop a conditioning program to improve conditioning levels utilizing the periodization model,
3. design a conditioning program to meet the unique needs of special populations,
4. take the NASM, AFAA or other national certification exam.

**Associate in science degree**
Fitness instruction/personal training

**Certificate of achievement**
Fitness instruction/personal training

**Associate in science degree**
Sports medicine/athletic training

Students completing the program will be able to...
1. apply for transfer into a healthcare program at a 4-year school including athletic training, nursing, physician assistant, pre-physical therapy and pre-med programs,
2. succeed in the four-year program by being academically prepared in areas such as anatomy, medical terminology and emergency medical procedures,
3. succeed in the four-year program by being clinically prepared in areas such as injury evaluation, rehabilitation and massage techniques.

**POLITICAL SCIENCE – POLSC**

**Associate in arts**
Political Science

Students completing the program will be able to...
1. recognize political values embedded in systems of political thought,
2. describe the basic structures and procedures of American government,
3. describe the relative impact of federal, state and local governments on the inhabitants of California,
4. describe the content and origins of several world philosophies,
5. demonstrate an understanding of fundamental political concepts,
6. recognize and discuss various elements of power in political activity.

**PSYCHOLOGY – PSYCH**

**Associate in arts**
Psychology

Students completing the program will be able to...
1. identify the major theoretical orientations in psychology and demonstrate knowledge of basic psychological concepts regarding behavior and mental processes,
2. demonstrate knowledge of research methods, ethical considerations in conducting research, and effective use of the American Psychological Association (APA) style in presenting information,
3. utilize critical thinking skills to analyze, evaluate, and make decisions concerning complex contemporary issues in psychology,
4. recognize the complexity of social, cultural, and international diversity,
5. apply psychological principles to the development of interpersonal, occupational, and social skills, and life-long personal growth,
6. demonstrate understanding of major theories, concepts, and research findings in selected content areas of psychology, such as lifespan development, personality and social psychology, neuroscience, and abnormal psychology.
RUSSIAN – RUSS

Certificate of achievement
Russian

Students completing the program will be able to...
1. comprehend a spoken dialogue in the target language.
2. identify the present, past and future tenses in a written paragraph.
3. interpret cultural behavior.

SPANISH – SPAN

Certificate of achievement
Spanish

Students completing the program will be able to...
1. comprehend a spoken dialogue in the target language.
2. identify the present, past and future tenses in a written paragraph.
3. interpret cultural behavior.

SPECIAL EDUCATION – SPEDU

The 3 learning outcomes below are valid for all degrees and certificates in Special Education.

Students completing the program will be able to...
1. analyze state and federal legislation pertaining to general and special education,
2. use a variety of instruction strategies and materials that respect individual differences,
3. demonstrate and understanding of how culture affects relationships among children, families, and schooling.

Associate in arts degree
Special education paraeducator/instructional assistant

Certificate of achievement
Special education paraeducator/instructional assistant

TRANSFER STUDIES – CSU

The 5 learning outcomes below are valid for all certificate Transfer Studies CSU and Transfer Studies IGETC.

Certificate of achievement
CSU General Education Breadth

Students completing the program will be able to...
1. communicate effectively, both verbally and in writing,
2. critically analyze and solve problems using the appropriate technique for the issue at hand, including appropriate use of logic, mathematics, multi-disciplinary, and cultural considerations where applicable,
3. critically examine the function, media, subject matter, organization, aesthetic, style, and relative excellence of representative examples of the arts, literature, philosophy, and foreign languages including approaches from various historical, cultural, and gender-based origins,
4. develop an understanding of the information available, the perspectives and approaches of the physical, biological, social and behavioral sciences, appreciating the power and limits of these methods of inquiry and both individual, ethical, and societal responsibilities,
5. organize and present information in person in a logical and understandable manner.

TRANSFER STUDIES – IGETC

Certificate of achievement
Intersegmental General Education Transfer Curriculum - IGETC

1. communicate effectively, both verbally and in writing,
2. critically analyze and solve problems using the appropriate technique for the issue at hand, including appropriate use of logic, mathematics, multi-disciplinary, and cultural considerations where applicable,
3. critically examine the function, media, subject matter, organization, aesthetic, style, and relative excellence of representative examples of the arts, literature, philosophy, and foreign languages including approaches from various historical, cultural, and gender-based origins,
4. develop an understanding of the information available, the perspectives and approaches of the physical, biological, social and behavioral sciences, appreciating the power and limits of these methods of inquiry and both individual, ethical, and societal responsibilities,
5. organize and present information in person in a logical and understandable manner.
6. demonstrate proficiency in a language other than English, and knowledge of the associated history and culture, at the level expected from two years of high school study (for UC transfer).
III REQUIREMENTS
for associate degrees, general education, and certificate programs

Note:
Changes are underlined, deletions are indicated by strike-through.

GENERAL EDUCATION OPTIONS

OPTION 1

DVC GENERAL EDUCATION REQUIREMENTS

These are the 2009-2010 DVC G.E. requirements and are subject to change. Please check with the counseling department for up-to-date information or visit www.dvc.edu.

Program Level Student Learning Outcomes

Certificate of achievement
DVC GE General Education Sequence

Students completing the program will be able to...

1. communicate effectively, both verbally and in writing,
2. critically analyze and solve problems using the appropriate technique for the issue at hand, including appropriate use of logic, mathematics, multi-disciplinary, and cultural considerations where applicable,
3. critically examine the function, media, subject matter, organization, aesthetic, style, and relative excellence of representative examples of the arts, literature, philosophy, and foreign languages including approaches from various historical, cultural, and gender-based origins,
4. develop an understanding of the information available, the perspectives and approaches of the physical, biological, social and behavioral sciences, appreciating the power and limits of these methods of inquiry and both individual, ethical, and societal responsibilities,
5. demonstrate physical and intellectual skills to promote health and prevent disease.

I. LANGUAGE AND REASONING

A. English composition
Course requirement - 3 units
Complete with a “C” grade or higher:
English 122
AP English Language or English Literature with a score of 3 or higher meets this requirement.

B. Communications and analytical thinking
Course requirement - 3-4 units
Complete one course:
Business 240, 250, 255
Computer Science 100, 105, 110, 255, 265
English 123, 126
History 122
Mathematics 124, 125, 135, 135SP (3 units), 142, 181, 182, 183, 191, 192, 193, 194, 195, 292, 294
Philosophy 130
Psychology 145
Sociology 122
Speech 121
AP Calculus AB or Calculus BC or Statistics with a score of 3 or higher meets this requirement.

C. Mathematics comprehension
Course requirement - 0-4 units
Satisfy either 1) or 2) below.

1) Complete one of the following courses with a grade “C” or higher, or transfer credit for an equivalent course from another accredited college or university.
   - Business 240
   - Engineering 111
   - Mathematics 114, 120, 120SP (4 units), 121, 124, 125, 135, 135SP (3 units), 142, 181, 182, 183, 191, 192, 193, 194, 195, 292, 294

2) Satisfy one of the following:
   - Receive a “C” grade or higher in the second term both semesters of a two-term course in high school Algebra II course.
   - Score at least 520 on the SAT Math test.
   - Score 22 24 or above on the math section of the ACT test.
   - Pass any CLEP math exam.
   - Score 3 or higher on AP Calculus AB or Calculus BC or Statistics.
II. NATURAL SCIENCES
Course requirement - 3-5 units
Complete one course:
Anthropology 115, 140
Astronomy 110, 120, 128
Biological Science 101, 102, 116, 117, 119, 120, 126, 130, 131, 139, 140, 146, 160, 170, 205
Chemistry 106, 108, 109, 120, 121, 226, 227
Geography 120, 121, 140, 141
Geology 120, 121, 122, 124, 125
Oceanography 101, 102
Physical Science 112
Physics 110, 111, 113, 120, 121, 129, 130, 230, 231
One of the following AP tests with a score of 3 or higher meets this requirement: Biology, Chemistry, Environmental Science, Physics B, or Physics C.

III. ARTS AND HUMANITIES
Course requirement - 3-4 5 units
Complete one course from A or B:
A. Arts courses
Art Digital Media 214
Art History 193, 195, 196, 197, 199
Dance 201
Drama 139, 140, 141, 142, 180, 181
Film 140, 160, 180, 280, 281, 282, 283, 284
Music Literature 110, 112, 114, 115, 116, 117, 118

B. Humanities courses
Arabic 121
Architecture 155, 160
Chinese 121, 220, 221
English 150, 151, 152, 153, 154, 162, 163, 164, 166, 167, 168, 170, 172, 173, 175, 177, 180, 190, 252, 253, 262, 263, 272, 273
French 121, 220, 221, 230, 231
German 121, 147, 220, 221, 230, 231
History 120, 121, 124, 125, 126, 127, 128, 129, 130, 135, 136, 140, 141, 150, 151, 170, 171 240
Italian 121, 147, 220, 221, 230, 231
Japanese 121, 147, 220, 221, 245
Latin 121
Music 110, 115, 116
Persian 121
Philosophy 120, 122, 140, 141, 220, 224, 225
Spanish 121, 220, 221, 230, 231, 250
One of the following AP tests with a score of 3 or higher meets this requirement: Art History; Chinese Language and Culture; English Literature; European History; French Language; French Literature; German Language; Italian Language and Culture; Japanese Language and Culture; Latin Literature; Latin: Vergil; Spanish Language; Spanish Literature; U.S. History; World History.

IV. SOCIAL AND BEHAVIORAL SCIENCES
Course requirement - 3 units
Complete one course:
Administration of Justice 120
Anthropology 120, 125, 130, 135, 150
Early Childhood Education 124
Economics 101, 200, 220, 221
Engineering 130
Geography 130, 135
History 120, 121, 124, 125, 126, 127, 128, 129, 130, 135, 136, 140, 141, 150, 151, 170, 171 240
Journalism 110
Political Science 120, 121, 151, 220, 240, 250
Social Science 110, 111, 115, 120, 123, 220
Sociology 120, 121, 123, 124, 125, 131, 135 140
One of the following AP tests with a score of 3 or higher meets this requirement: Comparative Government and Politics; European History; Human Geography; Macroeconomics; Microeconomics; Psychology; U.S. Government and Politics; U.S. History; World History.

V. MULTICULTURAL STUDIES
Course requirement - 0-3 units
(Courses may also satisfy other degree requirements, but the units are only counted once.)
Addiction Studies 155
Administration of Justice 130
Anthropology 120, 135
Broadcast Communication Arts 260
Culinary Arts 228
Drama 142
Early Childhood Education 144
English 162, 168, 170, 173, 177, 190, 225, 262
Film 160
Geography 135
History 124, 125, 126, 127, 128, 129, 130, 170, 171
Humanities 115
Music 115, 116
Music Literature 112, 114, 115, 116
Psychology 140, 141
Social Science 115, 120, 220
Sociology 125, 131, 135

VI. INFORMATION LITERACY

Course requirement 0–5 units
(Courses may also satisfy other degree requirements, but the units are only counted once.)

Biological Science 130
Career 110
Counseling 130
Dental Hygiene 134
Health Science 124
Library Studies 121
Nutrition 120
Physical Education Theory 210
OPTION 2

INTERSEGMENTAL GENERAL EDUCATION TRANSFER CURRICULUM (IGETC)

At the time this catalog went to press, the IGETC list for 2009-2010 had not yet been approved. The information on these pages is the list that was approved for 2008-2009 and is subject to change. Please check with the counseling department for up-to-date information. The current IGETC list may be found at www.assist.org.

Although courses may be listed in more than one area, they may be used to satisfy the requirement in only one area except for courses in Languages other than English.

Program Level Student Learning Outcomes

Certificate of achievement

IGETC General Education Breadth

Students completing the program will be able to...

1. communicate effectively, both verbally and in writing,
2. critically analyze and solve problems using the appropriate technique for the issue at hand, including appropriate use of logic, mathematics, multi-disciplinary, and cultural considerations where applicable,
3. critically examine the function, media, subject matter, organization, aesthetic, style, and relative excellence of representative examples of the arts, literature, philosophy, and foreign languages including approaches from various historical, cultural, and gender-based origins,
4. develop an understanding of the information available, the perspectives and approaches of the physical, biological, social and behavioral sciences, appreciating the power and limits of these methods of inquiry and both individual, ethical, and societal responsibilities,
5. organize and present information in person in a logical and understandable manner.
6. demonstrate proficiency in a language other than English, and knowledge of the associated history and culture, at the level expected from two years of high school study (for UC transfer).

AREA 1.

ENGLISH COMMUNICATION

Course requirement:

CSU - 3 courses required, 1 each from group A, B and C.
UC - 2 courses required, 1 each from group A and B.

1-A. English composition

Course requirement - 3 units, 1 course
English 122

Note: AP English Language or English Literature with a score of 3 or higher meets this requirement.

1-B. Critical thinking - English composition

Course requirement - 3 units, 1 course
Complete 1 course from:
English 123, 126
History 122
Philosophy 130
Psychology 145
Sociology 122
Speech 121+

1-C. Oral communication - CSU requirement only

Course requirement - 3 units, 1 course
Speech 120

Note: 1-C is a CSU requirement only. Students transferring to UC do not have to meet the Area 1-C, “oral communication” requirement.

AREA 2.

MATHEMATICAL CONCEPTS AND QUANTITATIVE REASONING

Course requirement - 3 units, 1 course
Complete 1 course from:

Business 240+
Math 124+, 135+, 135SP+ (3 units), 142+, 181, 182+, 183+, 191+, 192+, 193+, 194, 195, 292, 294

Note: AP Calculus AB or Calculus BC or Statistics with a score of 3 or higher meets this requirement.

AREA 3.

ARTS AND HUMANITIES

Course requirement - 9 units, at least 3 courses

This requirement includes taking at least one course from the Arts (3-A) and one from the Humanities (3-B).

3-A. Arts

Complete 1 or more courses from:
Art Digital Media 214
Art History 193, 195, 196, 197, 199
Dance 201
Drama 139, 140, 141, 142, 180, 181
Film 140, 160, 180+, 280, 281+, 282, 283, 284
Music 110, 115, 116
Music Literature 110, 112, 114, 115, 116, 117+, 118+

Note: AP Art History with a score of 3 or higher counts as one course towards this requirement.

3-B. Humanities
Complete 1 or more courses from:
Arabic 121*
Architecture 155+, 160+
Chinese 121*, 220*, 221*
English 150, 151, 152+, 162, 163, 164, 166, 167, 168, 170, 172, 173, 175, 177, 180, 190, 252, 253, 262, 263, 272, 273
French 121*, 220*, 221*, 230*, 231*
German 121*, 147*, 220*, 221*, 230*, 231*
History 120+, 121+, 124+, 125+, 126+, 127*, 128+, 129*, 130+, 135+, 136+, 140*, 141*, 150*, 151*, 152*, 170*, 171*, 240*
Italian 121*, 147*, 220*, 221*, 230*, 231*
Japanese 121*, 147*, 220*, 221*, 245*
Latin 124*
Persian 121*
Philosophy 120, 122, 140, 141, 220, 224, 225
Russian 121*, 220*, 221*
Spanish 121*, 220*, 221*, 230*, 231*, 250*

Note: Each of the following AP tests with a score of 3 or higher counts as one course towards this requirement:
Art History; Chinese Language and Culture; English Literature; European History; French Language; French Literature; German Language; Italian Language and Culture; Japanese Language and Culture; Latin Literature; Latin: Vergil; Spanish Language; Spanish Literature; U.S. History; World History.

AREA 4.
SOCIAL AND BEHAVIORAL SCIENCES
Course requirement - 9 units, at least 3 courses
Complete at least 3 courses from at least 2 disciplines ‡:
‡Administration of Justice 120
Anthropology 120, 125, 130, 135, 150
‡Early Childhood Education 124
Economics 101+, 200+, 220+, 221+
Engineering 130
Geography 130, 135
History 120+, 121+, 124+, 125+, 126+, 127*, 128+, 129*, 130+, 135, 136+, 140+, 141+, 150+, 151+, 152+, 240*
Journalism 110
Political Science 120, 121, 220, 240, 250
Social Science 110, 111, 115, 120, 123+, 220
‡Sociology 120, 121, 123, 124, 125, 131, 135 140

Note: Each of the following AP tests with a score of 3 or higher counts as one course towards this requirement: Comparative Government and Politics; European History; Human Geography; Macroeconomics; Microeconomics; Psychology; U.S. Government and Politics; U.S. History; World History.

‡ Two of the three courses must be from different disciplines. Administration of Justice and Sociology are in the same discipline. Early Childhood Education and Psychology are in the same discipline.

AREA 5.
PHYSICAL AND BIOLOGICAL SCIENCES
Course requirement - 7-9 units, at least 2 courses
This requirement includes taking one physical science course and one biological science course from each of groups 5-A and 5-B. At least one course must have a laboratory.
Courses that meet the laboratory requirement are underlined and must be taken with matching lecture course.

5-A. Physical science
Course requirement - 3-5 units
Complete at least 1 course from:
Astronomy 110+ (add Astronomy 130 for lab), 120+ (add Astronomy 130 for lab), 128+
Chemistry 106+, 108+, 109+, 120, 121, 226, 227
Geography 120, 121, 140, 141
Geology 120, 121, 122, 124, 125
Oceanography 101, 102
Physical Science 112+
Physics 110+, 111+, 113, 120+, 121+, 129+, 130+, 230+, 231+

Note: AP Chemistry or Environmental Science or Physics B or Physics C with a score of 3 or higher meets both 5A and 5C requirements.

5-B. Biological science
Course requirement – 3-5 units, at least 1 course
Complete at least 1 course from:
Anthropology 115 (no lab), 140 (add Anthropology 141L for lab)
Biological Science 101+, 102+, 116+, 117+, 119+, 120+, 126, 130, 131, 139+, 140+, 146+, 160, 170, 205

Note: AP Biology with a score of 3 or higher meets both 5B and 5C requirements.

5-C. Laboratory
Courses that meet the laboratory requirement are underlined in Area 5-A and 5-B and must be taken with matching lecture course.

* Course may be listed in more than one area, but shall not be certified in more than one area except for courses in Languages other than English.
+ Indicates that transfer credit may be limited by either UC or CSU or both. Please consult with a counselor for additional information.

AREA 6.
LANGUAGES OTHER THAN ENGLISH
(UC REQUIREMENT ONLY)
Students shall demonstrate proficiency in a language other than English in one of the following ways:

• Proficiency equivalent to two years of high school study in the same language. Three years of high school study in American Sign Language. (A junior or senior high school transcript or approved test score must be on file in the Admissions and Records Office.)

  or

• Must have successfully completed one of the following foreign language courses:
  Arabic 120
  Chinese 120
  French 120
  German 120+, 146+
  Italian 120+, 146+
  Japanese 120+, 146+

Latin 120
Persian 120
Russian 120
Sign Language 281
Spanish 120

or

• Requirement validated by more advanced course.

Please see a counselor for details on required test scores or other alternatives to demonstrating proficiency.

Note: Advanced placement exams - Acceptable scores of 3 or higher can be used in some areas towards meeting IGETC subject areas as noted in that section. Note that an acceptable score on an English exam may not be used to meet the Critical Thinking - English Composition requirement.

CSU GRADUATION REQUIREMENT IN U.S. HISTORY, CONSTITUTION AND AMERICAN IDEALS
6 units
The CSU graduation requirement may be fulfilled, but is not required, prior to transfer. Courses used to fulfill this requirement also meet course requirements in IGETC areas 3 OR 4.

History 120 and History 121
History 120 and History 124
History 120 and History 128
History 120 and History 171
History 120 and Political Science 121
History 120 and Political Science 151
History 120 and Social Science 111
History 120 and Social Science 220
History 121 and History 127
History 121 and Political Science 121
History 121 and Social Science 111
History 121 and Social Science 155
History 121 and Social Science 220
History 124 and History 127
History 124 and Social Science 120
History 124 and Social Science 121
History 125 and Political Science 121
History 125 and Social Science 111
History 125 and Social Science 220
History 126 and Political Science 121
History 126 and Social Science 111
History 126 and Social Science 220
History 127 and History 128
History 127 and History 171
History 127 and Political Science 121
History 127 and Political Science 151
History 127 and Social Science 111
History 127 and Social Science 220
History 128 and Political Science 121
History 128 and Social Science 111
History 128 and Social Science 115
History 128 and Social Science 120
History 128 and Social Science 220
History 129 and Political Science 121
History 129 and Social Science 111
History 129 and Social Science 220
History 130 and Political Science 121
History 130 and Social Science 111
History 130 and Social Science 220
History 170 and History 171
History 170 and Political Science 121
History 170 and Social Science 111
History 170 and Social Science 220
History 171 and Political Science 121
History 171 and Social Science 111
History 171 and Social Science 115
History 171 and Social Science 120
History 171 and Social Science 220
Political Science 121 and Social Science 120
Political Science 151 and Social Science 120
Social Science 111 and Social Science 120
Social Science 120 and Social Science 220

(U.S. History, Constitution and American Ideals is considered by CSU to be a statutory rather than a general education requirement.)
OPTION 3

CSU GENERAL EDUCATION - BREADTH REQUIREMENTS

At the time this catalog went to press, CSU had not approved the G.E. list for 2009-2010. The information on these two pages is the list that was approved for 2008-2009 and is subject to change. Please check with the counseling department for up-to-date information. The current CSU G.E. list may be found at www.assist.org.

Note: A course may be listed in more than one area, but it may be used to satisfy only one subject requirement except in U.S. History, Constitution and American Ideals.

Program Level Student Learning Outcomes

Certificate of achievement CSU General Education Breadth

Students completing the program will be able to...

1. communicate effectively, both verbally and in writing,
2. critically analyze and solve problems using the appropriate technique for the issue at hand, including appropriate use of logic, mathematics, multi-disciplinary, and cultural considerations where applicable,
3. critically examine the function, media, subject matter, organization, aesthetic, style, and relative excellence of representative examples of the arts, literature, philosophy, and foreign languages including approaches from various historical, cultural, and gender-based origins,
4. develop an understanding of the information available, the perspectives and approaches of the physical, biological, social and behavioral sciences, appreciating the power and limits of these methods of inquiry and both individual, ethical, and societal responsibilities,
5. organize and present information in person in a logical and understandable manner.

A. COMMUNICATION IN THE ENGLISH LANGUAGE AND CRITICAL THINKING

Complete 9 units (one course from A-1, A-2 and A-3). A grade of “C” or higher is required for certification, CSU admission and/or graduation.

A-1. Oral communication
Course requirement - 3 units
Speech 120

A-2. Written communication
Course requirement** - 3 units
English 122

** AP English Language or English Literature with score of 3 or higher meets this requirement.

A-3. Critical thinking
Course requirement - 3 units
Complete one course from:
English 123, 126
History 122
Philosophy 130
Psychology 145
Sociology 122
Speech 121, 123

B. PHYSICAL UNIVERSE AND ITS LIFE FORMS

At least 3 units from B-1, at least 3 units in B-2, at least one lab course to meet B-3; at least 3 units in B-4. Courses that meet the laboratory requirement are noted below by an asterisk (*) beside the number.

B-1. Physical science
Course requirement ** - 3-5 units
Complete one course from:
Astronomy 110 (add Astronomy 130* for lab), 120 (add Astronomy 130* for lab), 128*
Chemistry 106*, 108*, 109*, 120*, 121*, 226*, 227*
Geography 120 (add Geography 121* for lab), 140 (add Geography 141* for lab)
Geology 120 (add Geology 122* for lab), 121 (add Geology 124* for lab), 125
Oceanography 101, 102*
Physical Science 112
Physics 110 (add Physics 111* for lab), 113, 120*, 121*, 129*, 130*, 230*, 231*
** AP Chemistry or Environmental Science or Physics B or Physics C with a score of 3 or higher meets both B-1 and B-3 requirements.

B-2. Life science
Course requirement** - 3-5 units
Complete one course from:
Anthropology 115, 140 (add Anthropology 141L* for lab)
Biological Science 101, 102*, 116, 117*, 120*, 126*, 130*, 131*, 139*, 140*, 146*, 160*, 170, 205*

**AP Biology with a score of 3 or higher meets both B-2 and B-3 requirements.

B-3. Laboratory activity
Course requirement:
One course in B-1 or B-2 must be a laboratory course.
Courses that meet the lab requirement are designated by an asterisk (*) following the course number.

B-4. Mathematics/quantitative reasoning
Course requirement** - 3-4 units
A grade of “C” or higher is required.
Complete one course from:
- Business 240
- Mathematics 121, 124, 135, 135SP (3 units), 142, 181, 182, 183, 191, 192, 193, 194, 195, 292, 294

**AP Calculus AB or Calculus BC or Statistics with a score of 3 or higher meets this requirement.

C. ARTS, LITERATURE, PHILOSOPHY AND FOREIGN LANGUAGE
Course requirement - 9 units
Complete at least one 3 unit course in the Arts (C-1), one 3 unit course in the Humanities (C-2), and 3 units from C-1 and/or C-2, for the total requirement of 9 units.

C-1. Arts (Art, Dance, Music, Theater)
Course requirement - 3-6 units
Complete one or more courses from:
- Architecture 120, 121, 130, 155, 156, 157, 160
- Art 105, 120, 126, 140, 152, 160
- Art Digital Media 214
- Art History 193, 195, 196, 197, 199
- Broadcast Communication Arts 140
- Dance 201
- Drama 122, 139, 140, 141, 142, 150, 170, 180, 181
- English 152
- Film 140, 160, 180, 280, 281, 282, 283, 284
- Music 110, 115, 116, 252, 255
- Speech 148

**AP Art History with a score of 3 or higher counts as one course towards this requirement.

C-2. Humanities (Literature, Philosophy, Foreign Language)
Course requirement** - 3-6 units
Complete one or more courses from:
- Arabic 121
- Architecture 155, 160
- Broadcast Communication Arts 260
- Chinese 121, 220, 221
- Drama 142
- English 150, 151, 152, 153, 154, 162, 163, 164, 166, 167,

168, 170, 172, 173, 175, 177, 180, 190, 222, 223, 224, 225, 252, 253, 262, 263, 272, 273
- Film 160
- French 121, 220, 221, 230, 231
- German 121, 147, 220, 221, 230, 231
- History 120, 121, 124, 125, 126, 127, 128, 129, 130, 135, 136, 140, 141, 150, 151, 160, 170, 171, 240
- Italian 121, 147, 220, 221, 230, 231
- Japanese 121, 147, 220, 221, 245
- Latin 121
- Persian 121
- Philosophy 120, 122, 140, 141, 220, 221, 224, 225
- Russian 121, 220, 221
- Sign Language 282
- Spanish 121, 220, 221, 230, 231, 250

*Each of the following AP tests with a score of 3 or higher counts as one course towards this requirement:
- Art History; Chinese Language and Culture; English Literature; European History; French Language;
- French Literature; German Language; Italian Language and Culture; Japanese Language and Culture; Latin Literature; Latin: Vergil; Spanish Language; Spanish Literature; U.S. History; World History.

D. SOCIAL, POLITICAL AND ECONOMIC INSTITUTIONS AND BEHAVIOR, HISTORICAL BACKGROUND
At least 9 units required with courses in at least 2 disciplines. A course may be listed in more than one group, but may be counted only once.

D-1. Anthropology and archaeology
Anthropology 120, 125, 130, 135, 150

D-2. Economics
Economics 101, 200, 220, 221

D-3. Ethnic studies
Anthropology 120, 135
History 124, 125, 126, 127, 128, 129, 130, 170, 171
Psychology 140, 141
Social Science 115, 120, 220
Sociology 131, 135

D-4. Gender studies
History 170, 171
Social Science 120, 220
Sociology 124

D-5. Geography
Geography 130, 135

D-6. History
History 120, 121, 124, 125, 126, 127, 128, 129, 130, 135, 136, 140, 141, 150, 151, 160, 170, 171, 240
D-7. Interdisciplinary social or behavioral science
   Engineering 130
   Gerontology 190
   Journalism 110
   Social Science 110, 111, 115, 120, 123, 162, 163, 220

D-8. Political science, government and legal institutions
   Political Science 120, 121, 151, 220, 240, 250

D-9. Psychology
   Early Childhood Education 124

D-10. Sociology and criminology
   Administration of Justice 120, 139
   Sociology 120, 121, 123, 124, 125, 131, 135 140

**Each of the following AP tests with a score of 3 or higher counts as one course towards this requirement:
   Comparative Government and Politics; European History;
   Human Geography; Macroeconomics; Microeconomics;
   Psychology; U.S. Government and Politics; U.S. History;
   World History.

E. LIFELONG UNDERSTANDING AND SELF DEVELOPMENT
   Course requirement - 3 units
   Complete one course from:
   Career 110
   Counseling 120
   Early Childhood Education 124
   Health Science 124, 140, 164, 170
   Nutrition 115, 160
   Physical Education-Dance 130, 136, 142
   Psychology 122, 140, 141, 160, 200
NEW DEGREE AND CERTIFICATE PROGRAMS

ALTERNATE ENERGY TECHNOLOGIES – AET

Certificate of achievement
Energy Systems - Solar thermal

NOTE: This certificate program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

This program prepares students for careers installing, designing, servicing, and maintaining solar thermal systems. Successful completers of this program will be able to work with residential, commercial, and industrial-size solar thermal systems. Solar thermal systems include domestic water heating, radiant floor heating, swimming pool, and spa heating systems. Solar air heating and cooling systems are currently under development, and will be included once established.

Many of the skills learned in these courses relate to solar photovoltaic systems as well. The following courses are part of the electricians’ trainee program and are approved by the Division of Apprenticeship Standards: Electricity 120 and 266.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AET 140 Solar Thermal Systems</td>
<td>4</td>
</tr>
<tr>
<td>AET 260 Photovoltaic and Solar Thermal Installation Techniques</td>
<td>2</td>
</tr>
<tr>
<td>CONST 110 Occupational Safety</td>
<td>2</td>
</tr>
<tr>
<td>CONST 114 Blueprint Reading</td>
<td>2</td>
</tr>
<tr>
<td>CONST 135 Construction Processes (Residential)</td>
<td>4</td>
</tr>
<tr>
<td>CONST 191 Plumbing Code Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>ELECT 120 Direct Current Circuits</td>
<td>4</td>
</tr>
<tr>
<td>ELECT 266 Electrical Codes: Articles 90-398</td>
<td>3</td>
</tr>
</tbody>
</table>

Total units required 25

required courses

Choose one of the following six specialization areas:

<table>
<thead>
<tr>
<th>major requirements</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>core courses</td>
<td></td>
</tr>
<tr>
<td>BUS 109 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 250 Business Communications I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 294 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 120 Introduction to Management Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose one of the following six specialization areas:

<table>
<thead>
<tr>
<th>advanced general business</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>required courses</td>
<td></td>
</tr>
<tr>
<td>BUS 209 International Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 121 Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
</tbody>
</table>

plus a minimum of 3 units from:

Any BUS course not listed in the core requirements | 3
Any BUSAC course not listed in the core requirements | 3
Any BUSMG course not listed in the core requirements | 3
Any BUSMK course not listed in the core requirements | 3
Any RE course not listed in the core requirements | 3

business marketing

<table>
<thead>
<tr>
<th>business marketing</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>required courses</td>
<td></td>
</tr>
<tr>
<td>BUS 240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUSMK 256 Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

plus a minimum of 6 units from:

BUS 209 International Business | 3
BUSMK 158 Professional Selling | 3
BUSMK 255 Advertising | 3
Any RE course | 3

management and leadership studies

<table>
<thead>
<tr>
<th>management and leadership studies</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>required courses</td>
<td></td>
</tr>
<tr>
<td>BUSMG 121 Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 132 Human Resource Management</td>
<td>3</td>
</tr>
</tbody>
</table>

plus a minimum of 6 units from:

BUSMG 131 Gender Issues in Management | 3
BUSMG 191 Small Business Management | 3
BUSMG 192 Entrepreneurship and Venture Management | 3
BUSMG 226 Group Behavior and Leadership | 3

NOTE: This degree program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

This curriculum is designed to provide an opportunity for business students to achieve an associate in science degree in general business after completing a series of foundational and more advanced courses that focus on a specific area of business, through completing coursework in an area of specialization such as general business, management, marketing, wealth management, small business/entrepreneurship, or real estate.

Completion of this curriculum will demonstrate commitment to the field and provide comprehensive preparation for employment in business-related occupations.

This degree is not intended for transfer students. DVC business students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are also advised to select either General Education Option 2 (IGETC) or Option 3 (CSU Breadth). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn a certificate of achievement, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major, and complete all graduation requirements as listed in the catalog. Students must complete at least 25% of all business-related course work at Diablo Valley College. Some courses may satisfy both major and other graduation requirements; however, the units are only counted once.

Associate in science
Business

NOTE: This degree program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

This curriculum is designed to provide an opportunity for business students to achieve an associate in science degree in general business after completing a series of foundational and more advanced courses that focus on a specific area of business, through completing coursework in an area of specialization such as general business, management, marketing, wealth management, small business/entrepreneurship, or real estate.

Completion of this curriculum will demonstrate commitment to the field and provide comprehensive preparation for employment in business-related occupations.

This degree is not intended for transfer students. DVC business students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are also advised to select either General Education Option 2 (IGETC) or Option 3 (CSU Breadth). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate degree with a major in Business with an area of specialization, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major, and complete all graduation requirements as listed in the catalog. Students must complete at least 25% of all business-related course work at Diablo Valley College. Some courses may satisfy both major and other graduation requirements; however, the units are only counted once.

major requirements

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>core courses</td>
<td></td>
</tr>
<tr>
<td>BUS 109 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 250 Business Communications I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 294 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 120 Introduction to Management Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose one of the following six specialization areas:

<table>
<thead>
<tr>
<th>advanced general business</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>required courses</td>
<td></td>
</tr>
<tr>
<td>BUS 209 International Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 121 Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
</tbody>
</table>

plus a minimum of 3 units from:

Any BUS course not listed in the core requirements | 3
Any BUSAC course not listed in the core requirements | 3
Any BUSMG course not listed in the core requirements | 3
Any BUSMK course not listed in the core requirements | 3
Any RE course not listed in the core requirements | 3

management and leadership studies

<table>
<thead>
<tr>
<th>management and leadership studies</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>required courses</td>
<td></td>
</tr>
<tr>
<td>BUSMG 121 Practices and Concepts of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 132 Human Resource Management</td>
<td>3</td>
</tr>
</tbody>
</table>

plus a minimum of 6 units from:

BUSMG 131 Gender Issues in Management | 3
BUSMG 191 Small Business Management | 3
BUSMG 192 Entrepreneurship and Venture Management | 3
BUSMG 226 Group Behavior and Leadership | 3
To earn the certificate of achievement in general business, students must complete each course with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate. All coursework required for the certificate must be completed within seven (7) years of the certificate date.

**Certificate of achievement**

**Advanced general business**

NOTE: This certificate program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

This curriculum is designed to expand general business knowledge and add depth and breadth in the areas of management and supervision, global business, and statistical arguments and solutions. The program provides development of general principles and skills applicable to all businesses and industries.

To earn the certificate of achievement in general business, students must complete each course with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate. All coursework required for the certificate must be completed within seven (7) years of the certificate date.

**Certificate of achievement**

**Wealth management**

NOTE: This certificate program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

This curriculum is designed to provide targeted financial knowledge concerning money management, insurance, wealth accumulation, income taxes, investments, and estate planning for the individual. This is a multi-disciplinary program involving accounting, finance, and law.

To earn the certificate of achievement in wealth management, students must complete each course with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate. All coursework required for the certificate must be completed within seven (7) years of the certificate date.
BUSINESS ACCOUNTING – BUSAC

Associate in science
Accounting

NOTE: This degree program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

This curriculum is designed to provide an opportunity for accounting students to achieve an associate in science degree in accounting after completing a comprehensive series of courses in the area of accounting. Completion of this curriculum satisfies the accounting unit requirement to take the California CPA exam (For additional requirements please go to http://www.dca.ca.gov/cba/), demonstrates commitment to the field of accounting, and provides comprehensive preparation for employment in accounting-related occupations. This degree is not intended for transfer students. DVC accounting students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are also advised to select either General Education Option 2 (IGETC) or Option 3 (CSU Breadth). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate degree with a major in accounting students must complete each course used to meet a major requirement with a “C” grade or better, maintain an overall GPA of 2.5 or better in the coursework required for the major and complete all graduation requirements as listed in the catalog. Students must complete at least 25% of all business-related course work at Diablo Valley College. Some courses may satisfy both major and other graduation requirements; however, the units are only counted once.

<table>
<thead>
<tr>
<th>major requirements</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSAC 186 Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC 187 Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BUSIM 145 Business Spreadsheet Applications</td>
<td>2</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>BUS 240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 250 Business Communications I</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 182 Computer Income Tax Return Preparation – Individuals</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 185 QuickBooks Accounting for Business I</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 188 QuickBooks Accounting for Business II</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 190 Payroll Accounting</td>
<td>1.5</td>
</tr>
<tr>
<td>COOP 170 Occupational Work Experience Education</td>
<td>1-4</td>
</tr>
<tr>
<td>plus at least 12 units from:</td>
<td></td>
</tr>
<tr>
<td>BUS 294 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 282 Intermediate Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 283 Auditing</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 284 Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 285 Federal Income Taxes – Individuals</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 286 Governmental and Not-for-Profit Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 290 Corporate Financial Reporting and Financial Statement Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 3 units from:

| BUS 209 International Business | 3 |
| BUS 240 Business Statistics | 3 |
| BUS 250 Business Communications I | 3 |
| BUSMG 191 Small Business Management | 3 |
| BUSMG 192 Entrepreneurship and Venture Management | 3 |

Total units required 28

Certificate of achievement
Advanced accounting

NOTE: This certificate program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

The certificate of achievement in advanced accounting builds on the curriculum in the general accounting certificate program and is designed to add technical depth and analytical skill-set development in the areas of financial accounting auditing, cost accounting, individual income taxation, governmental and not-for-profit accounting and corporate financial reporting for those students with a solid foundation in general accounting. Subjects in this program prepare students for higher level accounting positions and for taking certification examinations in the field of accounting such as enrolled agent, certified fraud examiner, certified internal auditor, certified public accountant or certified management accountant.

Students are required to obtain a grade of “C” or higher in all required courses. Certificate courses are offered in a combination of day, evening, weekend and online courses. At least 25 percent of the units must be completed at DVC. Requests for course substitution are made to the business administration department chairperson.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSAC 186 Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BUSAC 187 Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BUSIM 145 Business Spreadsheet Applications</td>
<td>2</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>BUS 240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 250 Business Communications I</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 182 Computer Income Tax Return Preparation – Individuals</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 185 QuickBooks Accounting for Business I</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 188 QuickBooks Accounting for Business II</td>
<td>1.5</td>
</tr>
<tr>
<td>BUSAC 190 Payroll Accounting</td>
<td>1.5</td>
</tr>
<tr>
<td>COOP 170 Occupational Work Experience Education</td>
<td>1-4</td>
</tr>
<tr>
<td>plus at least 12 units from:</td>
<td></td>
</tr>
<tr>
<td>BUS 294 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 282 Intermediate Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 283 Auditing</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 284 Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 285 Federal Income Taxes – Individuals</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 286 Governmental and Not-for-Profit Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSAC 290 Corporate Financial Reporting and Financial Statement Analysis</td>
<td>3</td>
</tr>
<tr>
<td>plus at least 3 units from:</td>
<td></td>
</tr>
<tr>
<td>BUS 209 International Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 240 Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 250 Business Communications I</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 191 Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>BUSMG 192 Entrepreneurship and Venture Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Total units required 28
Certificate of achievement
Bookkeeping

NOTE: This certificate program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

The certificate program in bookkeeping is designed to provide basic business knowledge for obtaining entry-level employment in jobs requiring bookkeeping and accounting skills. Course content emphasizes small business applications for both a service and merchandising business and includes a solid foundation in bookkeeping principles and the classifying and double-entry recording of financial transactions and preparation of the income statement and balance sheet.

Students are required to obtain a grade of “C” or higher in all required courses. Certificate courses are offered in a combination of day, evening, weekend and online courses. At least 25 percent of the units must be completed at DVC. Requests for course substitution are made to the business administration department chairperson.

a minimum of 3 units from:
BUSAC 181 Applied Accounting.............................. 3
BUSAC 186 Principles of Accounting I ....................... 4

plus 8-9 units from:
BUS 250 Business Communications I ...................... 3
BUSAC 182 Computer Income Tax Return Preparation - Individuals ...................................................... 1.5
BUSAC 185 QuickBooks Accounting for Business I ...... 1.5
BUSAC 188 QuickBooks Accounting for Business II ..... 1.5
BUSAC 190 Payroll Accounting ................................. 1.5
BUSIM 145 Business Spreadsheet Applications .......... 2
COOP 170 Occupational Work Experience Education ............. 1-4

Total units required 12

BUSINESS MARKETING – BUSMK

Certificate of achievement
Business marketing

NOTE: This certificate program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

This curriculum is designed to develop knowledge of sales, advertising, and marketing principles and procedures. Statistical analysis is incorporated into the program as a foundation for working in industry with target markets and data selection.

To earn the certificate of achievement in business marketing, students must complete each course with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate. All coursework required for the certificate must be completed within seven (7) years of the certificate date.

Business marketing

Required courses
BUS 240 Statistics .................................................. 3
BUS 256 Marketing .................................................. 3

Plus a minimum of 6 units from:
BUS 209 International Business ......................... 3
BUSMK 158 Professional Selling ............................... 3
BUSMK 255 Advertising ........................................... 3
Any RE course ...................................................... 3

Total units required 12

CULINARY ARTS – CULN

Associate in science
Hospitality studies

NOTE: This degree program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

The associate in science degree in hospitality studies prepares students for entry into mid-level employment in one of three specialty areas of the hospitality and culinary arts industry: baking and pastry, culinary arts, restaurant management. This in-depth, hands-on program of study prepares students for a professional hospitality and culinary career in a broad scope of industry opportunities in the following areas of specialization:

Baking and pastry:

For over 30 years, DVC has been successfully preparing students for professional careers in small and large bakeries, specialty pastry shops, catering and dessert preparation in restaurants. Diablo Valley College’s baking and pastry program offers an in-depth, hands-on learning curriculum where students gain both knowledge and experience through the hotel and restaurant management program’s technical facilities. In addition to training at the DVC facilities, students gain experience working outside the college through a required internship program. DVC’s associate degree in hospitality studies with a specialization in baking and pastry is designed primarily for those students who desire to complete a two-year degree. General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. Students who are interested in pursuing a management-focused program in hospitality should see a counselor and consider the General Education Requirements Options 2 or 3.

Culinary arts:

For over 30 years, DVC has been successfully preparing students for professional culinary careers. Accredited by the American Culinary Federation since 1990, Diablo Valley College’s culinary arts program offers an in-depth, hands-on learning curriculum where students gain both knowledge and experience thought the hotel and restaurant management program’s technical facilities. In addition to training at the DVC facilities, students gain experience working outside the college though a required internship program. DVC’s associate degree in hospitality studies with a specialization in culinary arts is designed primarily for those students who desire to complete a two-year degree. General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer. Students who are interested in pursuing a management-focused program in hospitality should see a counselor and consider the General Education Options 2 or 3.
Restaurant management:
For over 30 years, DVC has been successfully preparing students for professional careers in restaurant management. Accredited by the American Culinary Federation since 1990, Diablo Valley College’s restaurant management program offers an in-depth, hands-on learning curriculum where students gain both knowledge and experience through the hotel and restaurant management program’s technical facilities. Restaurant management students work and learn in a fully equipped food production kitchen, a demonstration laboratory, a retail pastry shop and a 130-seat restaurant that is open to the public. In addition to training at the DVC facilities, students gain experience working outside the college through a required internship program. DVC’s associate degree in hospitality studies with a specialization in restaurant management is geared primarily towards DVC’s culinary students desiring some additional management coursework. Students who are interested in pursuing a management-focused program in hospitality should expect to complete a four-year degree program at a university. These students should see a counselor and consider the General Education Requirements Options 2 or 3.

To earn an associate in science degree, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the degree.

<table>
<thead>
<tr>
<th>major requirements</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>core courses</td>
<td></td>
</tr>
<tr>
<td>CULN 105 Introduction to the Kitchen</td>
<td>0.5</td>
</tr>
<tr>
<td>CULN 110 Orientation to Hospitality</td>
<td>3</td>
</tr>
<tr>
<td>CULN 115 Culinary Mathematics</td>
<td>1.5</td>
</tr>
<tr>
<td>CULN 120 Fundamentals of Cuisine</td>
<td>5</td>
</tr>
<tr>
<td>CULN 153 Safety and Sanitation</td>
<td>2</td>
</tr>
<tr>
<td>CULN 185 Nutritional Guidelines in Food Preparation</td>
<td>2</td>
</tr>
<tr>
<td>CULN 190 Purchasing Systems and Operations</td>
<td>2</td>
</tr>
<tr>
<td>CULN 191 Purchasing Systems and Operations Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CULN 195 Supervisory Management in Food Services</td>
<td>3</td>
</tr>
<tr>
<td>CULN 224 Catering Business and Operations</td>
<td>2</td>
</tr>
</tbody>
</table>

plus a minimum of 2 units from:
- COOP 170 Occupational Work Experience Education, 1-4
- COOP 170A Internship in Occupational Work Experience Education, 1-4

plus a minimum of 2.5 units from:
- CULN 225 Laboratory Topics in Catering and Special Events, 0.3-4

Choose one of the following three specialization areas:

**baking and pastry**

<table>
<thead>
<tr>
<th>required courses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN 180 Fundamentals of Baking</td>
<td>3.5</td>
</tr>
<tr>
<td>CULN 280 Advanced Pastry and Baking</td>
<td>5</td>
</tr>
</tbody>
</table>

plus a minimum of 2 units from:
- CULN 150 Topics in Culinary Arts, 0.3-4
- CULN 215 Decorative Confectionary Showpieces | 1 |

**culinary arts**

<table>
<thead>
<tr>
<th>required courses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN 127 Garde Manager</td>
<td>2</td>
</tr>
<tr>
<td>CULN 154 Menu Development and Planning</td>
<td>2</td>
</tr>
<tr>
<td>CULN 160 Fundamentals of Wine and Spirits</td>
<td>3</td>
</tr>
<tr>
<td>CULN 165 Dining Room Operations</td>
<td>2</td>
</tr>
<tr>
<td>CULN 166 Dining Room Operations Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CULN 175 Meat, Fish and Poultry Fabrication</td>
<td>2</td>
</tr>
<tr>
<td>CULN 180 Fundamentals of Baking</td>
<td>3.5</td>
</tr>
<tr>
<td>CULN 220 Advanced Cuisine</td>
<td>5</td>
</tr>
</tbody>
</table>

**restaurant management**

<table>
<thead>
<tr>
<th>required courses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CULN 154 Menu Development and Planning</td>
<td>2</td>
</tr>
<tr>
<td>CULN 160 Fundamentals of Wine and Spirits</td>
<td>3</td>
</tr>
<tr>
<td>CULN 165 Dining Room Operations</td>
<td>2</td>
</tr>
<tr>
<td>CULN 166 Dining Room Operations Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CULN 180 Fundamentals of Baking</td>
<td>3.5</td>
</tr>
<tr>
<td>CULN 201 Principles of Food, Beverage and Labor Cost Control</td>
<td>3</td>
</tr>
<tr>
<td>CULN 216 Food and Wine Pairing</td>
<td>1.5</td>
</tr>
<tr>
<td>CULN 220 Advanced Cuisine</td>
<td>5</td>
</tr>
</tbody>
</table>

**Total units for the major** 38-49.5

**SPEECH – SPCH**

**Associate in arts**

Communication studies

NOTE: This degree program is offered pending approval from the State Chancellor’s Office. Please verify the accuracy of the program requirements with a DVC counselor.

The communication studies area views communicative behavior as central to human activity: to individual development, to interpersonal relationships, and to the functioning of political, economic, cultural, and social institutions.

The program prepares students who wish to attend a four-year university or professional school. In addition, as effective verbal and nonverbal communication is a requirement for most jobs, the program prepares students for a wide variety of professions. Further, the program prepares students for careers in the fields of public relations, communication education, the performing arts, marketing, sales training and management. Additional careers in fields related to communication studies include salesperson, broadcaster, lawyer, tour guide, political campaign worker, teacher, customer service worker, public and international relations specialist, and negotiator/arbitrator.

Selected courses in the program meet lower division requirements for the Bachelor of Arts degree at many California State University and University of California campuses. Consult with department faculty and a counselor at your prospective college for more information.

To earn an associate in arts degree with a major in communication studies, students must complete three core courses supplemented by twelve restricted electives from which students select a minimum of nine units. Students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Certain courses may satisfy both a major and a graduation requirement; however, the units are only counted once.
major requirements

SPCH 120 Fundamentals of Speech ................. 3
SPCH 121 Persuasion and Critical Thinking .......... 3
SPCH 128 Interpersonal Communication .............. 3

plus at least 9 units from:

SPCH 123 Argumentation and Debate ................... 3
SPCH 124 Voice and Diction ................................. 3
SPCH 130 Small Group Communication ................. 3
SPCH 140 Effective Listening .............................. 1
SPCH 148 Performance of Literature .................... 3
SPCH 155 Topics in Speech ............................... 0.3-4
SPCH 160 Projects in Public Speaking ................. 1
SPCH 161 Projects in Debate .............................. 1
SPCH 162 Projects in Oral Interpretation .............. 1
SPCH 298 Independent Study .............................. 0.5-3
JRNAL 110 Mass Media of Communication ............ 3
JRNAL 120 Basic Newspaper Techniques .............. 3

Total units for the major 18

Certificate of achievement
Communication studies

To earn a certificate of achievement in communication studies, students must complete three core courses supplemented by ten restricted electives from which students select a minimum of three units to meet their individual educational and career goals. The certificate program courses also meet some of the requirements of the major for the associate in arts degree in communication studies at Diablo Valley College.

required courses

SPCH 120 Fundamentals of Speech ................. 3
SPCH 121 Persuasion and Critical Thinking .......... 3
SPCH 128 Interpersonal Communication .............. 3

plus at least 3 units from:

SPCH 123 Argumentation and Debate ................... 3
SPCH 124 Voice and Diction ................................. 3
SPCH 130 Small Group Communication ................. 3
SPCH 140 Effective Listening .............................. 1
SPCH 148 Performance of Literature .................... 3
SPCH 155 Topics in Speech ............................... 0.3-4
SPCH 160 Projects in Public Speaking ................. 1
SPCH 161 Projects in Debate .............................. 1
SPCH 162 Projects in Oral Interpretation .............. 1
SPCH 298 Independent Study .............................. 0.5-3

Total units required 12
CHANGES TO CERTIFICATE AND DEGREE PROGRAMS

ALTERNATE ENERGY TECHNOLOGIES – AET

Associate in science - Photovoltaic Energy Systems

Areas of specialization:
Photovoltaics; Solar Thermal

NOTE: The solar thermal specialization is offered pending approval from the State Chancellor's Office. Please verify the accuracy of the program requirements with a DVC counselor.

This program prepares students for jobs installing, designing, servicing and maintaining solar energy photovoltaic systems. Students who focus on photovoltaic systems within this program will be able to work with residential, commercial and industrial-size photovoltaic systems. Many of the skills learned in these courses relate to solar thermal systems as well. The following photovoltaic required courses are part of the Electricians Trainee Program and approved by the Division of Apprenticeship Standards: Electricity 120, 121, 266, 267. Students who focus on solar thermal systems will be prepared for careers installing, designing, servicing, and maintaining solar thermal systems. Successful completers of this program will be able to work with residential, commercial, and industrial-size solar thermal systems. Solar thermal systems include domestic water heating, radiant floor heating, swimming pool, and spa heating systems. Solar air heating and cooling systems are currently under development, and will be included once established.

Many of the skills learned in the solar thermal courses relate to photovoltaic systems as well. The following solar thermal required courses are part of the electricians' trainee program and are approved by the Division of Apprenticeship Standards: Electricity 120 and 266.

To earn an associate of science degree, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major and complete all graduation requirements as listed in the catalog.

required courses

AET 130 Photovoltaic Systems Design and Installation ........................................... 2
AET 230 Advanced Photovoltaic Systems .................................................. 2
CON 110 Occupational Safety ........................................................................ 2
CON 114 Blueprint Reading ........................................................................ 3
CON 135 Construction Processes (Residential) ...................................... 3
ELECT 120 Direct Current Circuits ......................................................... 3
ELECT 121 Alternating Current Circuits .................................................. 3
ELECT 266 Electrical Codes: Articles 90-398 ........................................ 4
ELECT 267 Electrical Codes: Articles 400-830 ........................................ 3

recommended courses

CNT 103 Voice, Video and Network Cabling ........................................ 1
CNT 105 Computer Networking Hardware/Software .................. 3
COMTC 110 Introduction to Computer Hardware/Software ............ 4
ELECT 130 Motors and Motor Controllers ........................................ 4

solar thermal

required courses

AET 140 Solar Thermal Systems ......................................................... 4
AET 260 Solar Photovoltaic and Thermal Installation Techniques .......... 2
CON 191 Plumbing Code Interpretation ........................................... 3

recommended courses

MATH 120 Intermediate Algebra .................................................... 4

Total units for the major 26 25-27

Certificate of Achievement - Energy Systems - Photovoltaics Systems

This program prepares students for jobs installing, designing, servicing and maintenance of photovoltaic systems. Students from this program will be able to work with residential, commercial and industrial size photovoltaic systems. Many of the skills learned in these courses relate to solar thermal systems as well. The following courses are part of the Electricians Trainee Program and approved by the Division of Apprenticeship Standards: Electricity 120, 121, 266, 267.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the certificate.

required courses

AET 130 Photovoltaic Systems Design and Installation ........................................... 2
AET 230 Advanced Photovoltaic Systems .................................................. 2
CON 110 Occupational Safety ........................................................................ 2
CON 114 Blueprint Reading ........................................................................ 3
CON 135 Construction Processes ......................................................... 4
ELECT 120 Direct Current Circuits ......................................................... 4
ELECT 121 Alternating Current Circuits .................................................. 4
ELECT 266 Electrical Codes: Articles 90-398 ........................................ 3
ELECT 267 Electrical Codes: Articles 400-830 ........................................ 3

recommended courses

CNT 103 Voice, Video and Network Cabling ........................................ 1
CNT 105 Computer Networking Hardware/Software .................. 3
COMTC 110 Introduction to Computer Hardware/Software ............ 4
ELECT 130 Motors and Motor Controllers ........................................ 4

Total units required 26 27

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**ARCHITECTURE – ARCHI**

**Associate in science degree - Architecture Technology**

The DVC architecture technology degree program offers students the opportunity to earn an associate in science degree in architecture technology, which prepares students for a career as an architectural intern, draftsman or designer. As an architecture technology student, students gain an in-depth understanding of the requirements and skills necessary for employment in an architect’s office.

Architectural interns, draftsmen or designers prepare technical and presentation drawings, draft copies of specifications and cost estimates, revise plans, trace details from various sources, operate printing machines, and assemble prints and other documents for projects. Graduates with these skills are also employed by landscape architects, industrial designers, interior designers, and engineers.

To earn an associate in science with a major in Architecture Technology, students must complete each course used to meet a major requirement with a “C” or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Certain courses may satisfy both major and graduation requirements; however, the units are only counted once.

**major requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI 120</td>
<td>Introduction to Architecture and Environmental Design</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI 126</td>
<td>Computer Aided Design and Drafting, AutoCAD</td>
<td>4</td>
</tr>
<tr>
<td>ARCHI 130</td>
<td>Architectural Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>ARCHI 222</td>
<td>Architectural Practice and Working Drawings I</td>
<td>3</td>
</tr>
<tr>
<td>CONST 124</td>
<td>Construction Details and Specifications</td>
<td>3</td>
</tr>
<tr>
<td>CONST 135</td>
<td>Construction Processes (Residential)</td>
<td>4</td>
</tr>
<tr>
<td>CONST 144</td>
<td>Materials of Construction</td>
<td>3</td>
</tr>
</tbody>
</table>

**plus at least 6 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCHI 131</td>
<td>Architectural Graphics II</td>
<td>4</td>
</tr>
<tr>
<td>CONST 116</td>
<td>Surveying Related to Construction Plan Surveying</td>
<td>3</td>
</tr>
<tr>
<td>CONST 181</td>
<td>Building Code Interpretation: Non Structural</td>
<td>3</td>
</tr>
<tr>
<td>CONST 183</td>
<td>Title 24: Energy Conservation Codes / Handicap Codes</td>
<td>3</td>
</tr>
<tr>
<td>COOP 170A</td>
<td>Internship in Occupational Work Experience Education</td>
<td>2-3</td>
</tr>
<tr>
<td>ENGIN 226</td>
<td>Computer Aided Drafting Design, Advanced Concepts-AutoCAD</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total units required for the certificate** 29

**ART DIGITAL MEDIA – ARTDM**

**Associate in arts - Art digital media**

The art digital media associate in arts program prepares students for entry level employment in one of six specialty areas of the multimedia industry: character animation, digital imaging, web design, motion graphics, 3D animation and digital audio. This program of study will provide students with the design and technical skills needed for creating non-linear interactive digital media. Students will participate in a collaborative, team-oriented learning experience that mirrors the multimedia industry design and production process. Additionally, students will explore multimedia career opportunities and develop a professional digital media portfolio for entry into the workforce.

To earn an associate in arts degree, students must complete each course used to meet a major requirement with a “C” grade or higher. Required courses are available in the evening and during the day. Certain courses may satisfy both major and graduation requirements; however, the units are only counted once.

**major requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 105</td>
<td>Introduction to Drawing, Color, and 2D Design</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM 110</td>
<td>Digital Imaging Process and Technique I</td>
<td>1.5</td>
</tr>
<tr>
<td>ARTDM 111</td>
<td>Digital Imaging Process and Technique II</td>
<td>1.5</td>
</tr>
<tr>
<td>ARTDM 130</td>
<td>Introduction to Digital Audio</td>
<td>1.5</td>
</tr>
<tr>
<td>ARTDM 149</td>
<td>Introduction to Digital Video</td>
<td>1.5</td>
</tr>
<tr>
<td>ARTDM 190</td>
<td>Projects in Multimedia</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM 191</td>
<td>Multimedia Portfolio Development</td>
<td>3</td>
</tr>
</tbody>
</table>
choose 8-9 units from one of the following six specialty areas:

**character animation**
- ART 107  Figure Drawing I .............................................. 3
- ARTDM 165  Cartoon Drawing for Digital Animation .......... 3
- ARTDM 170  Multimedia for Web Delivery .......................... 3

**digital audio**
- MUSIC 172  Introduction to Electronic Music and MIDI........ 3
- MUSIC 173  Advanced Electronic Music .............................. 3
- MUSIC 174  Introduction to ProTools ............................... 3

**digital imaging**
- ARTDM 112  Digital Imaging for the Artist ......................... 3
- ARTDM 214  Introduction to Graphic Design ....................... 3
- ARTDM 115  Digital Imaging Process and Technique III .... 3

**motion graphics**
- ARTDM 140  Motion Graphics for Digital Media ............... 3
- ARTDM 145  Digital Editing ........................................... 3
- ARTDM 170  Multimedia for Web Delivery ......................... 3

**3D modeling and animation**
- ARTDM 160  3D Modeling and Animation I ......................... 3
- ARTDM 161  3D Modeling and Animation II ........................ 3
- ARTDM 165  Cartoon Drawing for Digital Animation .......... 3

**web design**
- ARTDM 170  Multimedia for Web Delivery ......................... 3
- ARTDM 171  Web Design .................................................. 3
- COMSC 095  WWW Publishing with HTML .......................... 1
- COMSC 096  Advanced WWW Publishing ............................. 1

plus at least 9 units from:
- ART 106  Drawing and Composition .................................... 3
- ART 107  Figure Drawing I .............................................. 3
- ART 125  Color Theory and Its Application to 2-D Media ...... 3
- ARTDM 100  Introduction to Multimedia Workstations ....... 1
- ARTDM 112  Digital Imaging for the Artist ......................... 3
- ARTDM 115  Digital Imaging Process and Technique III .... 3
- ARTDM 117  Digital Illustration ...................................... 3
- ARTDM 136  Beginning Digital Photography ....................... 3
- ARTDM 120  Interactive Authoring for Multimedia ............. 3
- ARTDM 140  Motion Graphics for Digital Media ............... 3
- ARTDM 145  Digital Editing ........................................... 3
- ARTDM 160  3D Modeling and Animation I ......................... 3
- ARTDM 161  3D Modeling and Animation II ........................ 3
- ARTDM 165  Cartoon Drawing for Digital Animation .......... 3
- ARTDM 166  Interactive Cartoon Drawing for Digital Animation .... 3

**Certificate of achievement - Art digital media**
The art digital media program prepares students for entry level employment in one of six specialty areas of the multimedia industry: character animation, digital audio, digital imaging, motion graphics, 3D modeling and animation, and web design. This program of study will provide students with the design and technical skills needed for creating non-linear interactive digital media. Students will participate in a collaborative team-oriented learning experience that mirrors the multimedia industry design and production process. Additionally, students will explore multimedia career opportunities and develop a professional digital media portfolio for entry into the workforce.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a ”C” grade or higher. Required courses are available in the evening and during the day.

<table>
<thead>
<tr>
<th>required courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 105  Introduction to Drawing, Color, and Two-Dimensional Design</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM 110  Digital Imaging Process and Technique I</td>
<td>1.5</td>
</tr>
<tr>
<td>ARTDM 111  Digital Imaging Process and Technique II</td>
<td>1.5</td>
</tr>
<tr>
<td>ARTDM 130  Introduction to Digital Audio</td>
<td>1.5</td>
</tr>
<tr>
<td>ARTDM 149  Introduction to Digital Video</td>
<td>1.5</td>
</tr>
<tr>
<td>ARTDM 190  Projects in Multimedia</td>
<td>3</td>
</tr>
<tr>
<td>ARTDM 191  Multimedia Portfolio Development</td>
<td>3</td>
</tr>
</tbody>
</table>

plus 8-9 units from one of the 6 specialty areas listed below:

**character animation**
- ART 107  Figure Drawing I .............................................. 3
- ARTDM 165  Cartoon Drawing for Digital Animation .......... 3
- ARTDM 170  Multimedia for Web Delivery .......................... 3

**digital audio**
- ARTDM 131  Audio Production for Digital Media ............... 3
- MUSIC 172  Introduction to Electronic Music and MIDI .... 3
- MUSIC 173  Advanced Electronic Music .............................. 3
- MUSIC 174  Introduction to ProTools ............................... 3

**digital imaging**
- ARTDM 112  Digital Imaging for the Artist ......................... 3
- ARTDM 214  Introduction to Graphic Design ....................... 3
- ARTDM 115  Digital Imaging Process and Technique III .... 3

**motion graphics**
- ARTDM 140  Motion Graphics for Digital Media ............... 3
- ARTDM 145  Digital Editing ........................................... 3
- ARTDM 170  Multimedia for Web Delivery ......................... 3

**3D modeling and animation**
- ARTDM 160  3D Modeling and Animation I ......................... 3
- ARTDM 161  3D Modeling and Animation II ........................ 3
- ARTDM 165  Cartoon Drawing for Digital Animation .......... 3

**web design**
- ARTDM 170  Multimedia for Web Delivery ......................... 3
- ARTDM 171  Web Design .................................................. 3
- COMSC 095  WWW Publishing with HTML .......................... 1
- COMSC 096  Advanced WWW Publishing ............................. 1

plus at least 9 units from:
- ART 106  Drawing and Composition .................................... 3
- ART 107  Figure Drawing .................................................. 3
- ART 125  Color Theory and Its Application to Painting .......... 3

**Total units for the major** 32-33

Note: There may be no duplication of course units between major specialty area requirements and elective courses.
ARTDM 100 Introduction to Multimedia Workstations 4
ARTDM 112 Digital Imaging for the Artist 3
ARTDM 115 Digital Imaging Process and Technique III 3
ARTDM 117 Digital Illustration 3
ARTDM 120 Interactive Authoring for Multimedia 3
ARTDM 136 Intro to Beginning Digital Photography 3
ARTDM 140 Motion Graphics for Digital Media 3
ARTDM 145 Digital Editing 3
ARTDM 160 3D Modeling and Animation I 3
ARTDM 161 3D Modeling and Animation II 3
ARTDM 165 Cartoon Drawing for Digital Animation 3
ARTDM 166 Intermediate Cartoon Drawing for Digital Animation 3
ARTDM 170 Multimedia for Web Delivery 3
ARTDM 171 Web Design 3
ARTDM 175 Flash Interactivity 3
ARTDM 214 Introduction to Graphic Design 3
ARTDM 224 Typography 3
BUS 109 Introduction to Business 3
BUSMG 191 Small Business Management 3
COMSC 095 WWW Publishing with HTML 1
COMSC 096 Advanced WWW Publishing 1
COMSC 255 Programming with Java 3
COMSC 265 Advanced Programming with C and C++ 4
L 114 Developing Web Pages for Library Information 2
MUSIC 172 Introduction to Electronic Music and MIDI 3
MUSIC 173 Advanced Electronic Music 3
MUSIC 174 Introduction to ProTools 3
Total units required 32-33

Certificate of accomplishment - Art digital media - Foundation
Art digital media is a set of technologies and techniques that can be used to enhance the presentation of information. Art digital media uses computers to create productions that bring together text, sounds, animation, graphic art and video to education, inform and entertain. Classes are designed to serve both working professionals who wish to upgrade their skills and students who wish to enter the field.

To earn a certificate of accomplishment, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

required courses units
ART 105 Introduction to Drawing, Color, and Two-Dimensional Design 3
ARTDM 110 Digital Imaging Process and Technique I 1.5
ARTDM 111 Digital Imaging Process and Technique II 1.5
ARTDM 130 Introduction to Digital Audio 1.5
ARTDM 149 Introduction to Digital Video 1.5
plus at least 6 units from:
ARTDM 100 Introduction to Multimedia Workstations 4
ARTDM 112 Digital Imaging for the Artist 3
ARTDM 115 Digital Imaging Process and Technique III 3
ARTDM 120 Interactive Authoring for Multimedia 3
ARTDM 131 Audio Production for Digital Media 3
ARTDM 136 Intro to Beginning Digital Photography 3
ARTDM 140 Motion Graphics for Digital Media 3
ARTDM 160 3D Modeling and Animation I 3
ARTDM 161 3D Modeling and Animation II 3
ARTDM 170 Multimedia for Web Delivery 3
ARTDM 171 Web Design 3
ARTDM 214 Introduction to Graphic Design 3
COMSC 095 WWW Publishing with HTML 1

Business Accounting - BUSAC
Certificate of achievement - General accounting
This entry-level accounting certificate provides students with basic accounting and computer accounting coursework. Completion of the certificate will enable students to apply for entry-level positions in accounting.

Students are required to obtain a grade of “C” or higher in all required courses. Certificate courses are offered in a combination of day, evening, weekend and online courses. At least 25 percent of the units must be completed at DVC. Requests for course substitution are made to the business administration department chairperson.

required courses units
BUS 101 Business English 3
BUS 103 Applied Business Mathematics 3
LS 421 Information Competency and Research Skills 4
BUSAC 186 Principles of Accounting I 4
BUSAC 187 Principles of Accounting II 4
BUSIM 145 Business Spreadsheet Applications 2
plus at least 3 units from:
BUSAC 182 Computer Income Tax Preparation-Individuals 1.5
BUSAC 185 QuickBooks Accounting for Business I 1.5
BUSAC 188 Computer QuickBooks Accounting for Business II 1.5
BUSAC 190 Payroll Accounting 1.5
BUS 240 Business Statistics 3
BUS 250 Business Communications I 3
COOP 170 Occupational Work Experience Education 1-4
Total units required 20-13

Computer Information Systems - CIS
Associate in science - Computer information systems
The computer information systems associate in science program prepares the student for jobs in business and government as information technologies and management workers. Principle areas of study are computer software application, internet technologies, database systems, project management systems and basic network principles. These CIS courses prepare students for a career path in computer information systems and technologies. These courses teach terminology and provide hands-on laboratory experience with operating and network systems and stand alone and internet based applications.

In order to obtain an associate in science degree, students must complete the courses required for the core certificate of achievement and a minimum of one area of technical specialization, and complete all graduation requirements as listed in the Diablo Valley College catalog. To earn a degree, students must complete each course used to meet a major requirement with a “C” grade...
or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Other electives and course substitutions not listed below are possible with department chairperson approval.

major requirements
core courses
CIS 115 Microsoft Word - Comprehensive ........................................... 2
CIS 116 Microsoft Excel - Comprehensive ............................................ 2
CIS 118 Microsoft PowerPoint - Comprehensive .................................... 2

plus a minimum of 2 units from:
CIS 100 Microsoft Windows - Comprehensive .................................. 2
CIS 101 Apple Mac Operating System .................................................. 2

plus a minimum of 4 units from:
CIS 117 Microsoft Access - Comprehensive ...................................... 2
CIS 119 Microsoft Outlook - Comprehensive ..................................... 2
COMSC 138 Using Visual Basic for Applications ................................ 2

Core courses units subtotal 12

Choose one of the following four technical specialization areas:

web technology
required courses
CIS 105 Introduction to Web Design ..................................................... 2
CIS 106 Adobe Dreamweaver - Comprehensive ................................... 2
CIS 107 Web Database with Dreamweaver ......................................... 2

recommended electives
CIS 117 Microsoft Access - Comprehensive ...................................... 2
CIS 160 Introduction to MySQL ......................................................... 2
COMSC 095 WWW Publishing with HTML ........................................ 1

web graphics
required courses
CIS 130 Adobe Photoshop Elements .................................................... 2
CIS 131 Adobe Flash - Comprehensive ............................................... 2
CIS 132 Adobe Premiere Elements - Comprehensive .......................... 2

recommended electives
CIS 133 Using Camtasia ................................................................. 1
CIS 134 Using Apple iLife ................................................................. 2
CIS 135 Podcasting ............................................................................. 1

database management
required courses
CIS 107 Web Database with Dreamweaver ......................................... 2
CIS 117 Microsoft Access - Comprehensive ...................................... 2
CIS 160 Introduction to MySQL .......................................................... 2

recommended electives
CNT 134 Microsoft Internet Security and Acceleration
(ISA) Server .................................................................................... 3
CNT 135 Programming a Microsoft SQL Server
Database SQL Programming ......................................................... 3 4

project management
required courses
CIS 180 Introduction to Project Management/CAPM Prep .................... 3
CIS 181 Project Management Fundamentals/PMI PMP Prep ................ 3

recommended electives
CIS 185 Microsoft Project ................................................................. 2
CIS 186 Microsoft Visio ..................................................................... 2

Total units for major 18

Certificate of achievement - computer information systems - database management
required courses units
CIS 107 Web Database with Dreamweaver ......................................... 2
CIS 115 Microsoft Word - Comprehensive ........................................ 2
CIS 116 Microsoft Excel - Comprehensive ........................................ 2
CIS 117 Microsoft Access - Comprehensive ..................................... 2
CIS 118 Microsoft PowerPoint - Comprehensive ................................ 2
CIS 160 Introduction to MySQL .......................................................... 2

plus a minimum of 2 units from:
CIS 100 Microsoft Windows - Comprehensive ................................ 2
CIS 101 Apple Mac Operating System ................................................. 2

plus a minimum of 4 units from:
CIS 117 Microsoft Access - Comprehensive ...................................... 2
CIS 119 Microsoft Outlook - Comprehensive ..................................... 2
COMSC 138 Using Visual Basic for Applications ................................ 2

certificate of achievement units 18

Certificate of accomplishment - computer information systems - database management
required courses units
CIS 107 Web Database with Dreamweaver ......................................... 2
CIS 117 Microsoft Access - Comprehensive ...................................... 2
CIS 160 Introduction to MySQL .......................................................... 2

Certificate of accomplishment units 6

recommended elective
CNT 134 Microsoft Internet Security and Acceleration
(ISA) Server .................................................................................... 3
CNT 135 Programming a Microsoft SQL Server
Database SQL Programming ......................................................... 3 4

Computeralanachvih - Microsoft Windowssyterns administration
The associate degree in computer networking - Microsoft Windows systems administration prepares a student for a career in Information Technology while enabling the student to earn an associate in science degree. The degree offers students a broad general education while integrating an in-depth study of networking with Microsoft products. Students who intend to transfer to a four-year program should consult with a counselor regarding other course requirements. To earn a degree, students must complete each course used to meet a major requirement with a “C” grade or higher and maintain an overall GPA of 2.5 or higher in the coursework for the major and complete all graduation requirements as listed in the catalog. Some courses may satisfy both major and graduation requirements; however, the units are only counted once.
The Microsoft Windows systems administration program is designed to fully prepare students to install, configure, and administer Microsoft products. The program focuses on Microsoft, but also includes support courses that are not vendor specific and better prepare the student to work in the field. Completion of the program helps to prepare students to take and pass the Microsoft series of certification exams. You will need to complete a separate testing process administered by Microsoft that generally requires payment of fees to receive the certification as a Microsoft Certified Systems Engineer (MCSE).

This curriculum provides preparation for a career in computer systems administration. These jobs go by a variety of titles such as: systems administrator, network administrator, network engineer, database administrator and LAN specialist. This program would be an excellent choice for a student interested in a career with any of those job titles. To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.* Certificate requirements may only be completed by attending a combination of day and evening classes.

*Up to 15.5 units may be P

**Certificate of achievement - Microsoft Windows systems administration**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>CNT 105</td>
<td>Computer Networking Software/ Hardware...</td>
<td>3</td>
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<tr>
<td>CNT 114</td>
<td>Microsoft Windows Operating System Essentials/ Administration</td>
<td>3</td>
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<tr>
<td>CNT 117</td>
<td>Implementing Microsoft Windows Directory Services</td>
<td>3</td>
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<td>CNT 118</td>
<td>Implementing a Microsoft Windows Network Infrastructure</td>
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<td>CNT 223</td>
<td>Designing a Secure Microsoft Windows Network</td>
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<tr>
<td>COMTC 110B</td>
<td>Introduction to Computer Hardware/Software</td>
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</tr>
<tr>
<td>COMTC 118</td>
<td>Introduction to Operating Systems</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total units for the major** 32

**Certificate of achievement - Computer and information science**

This program prepares students for a variety of programming or information systems positions and is especially suitable for students who have four-year degrees.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.* Certificate requirements may only be completed by attending a combination of day and evening classes.

*Up to 15.5 units may be P

**Certificate of achievement - Microcomputer software support**

This program gives students the skills in computer programming, personal productivity applications, and data communications that they will need to succeed as a software support specialist in a typical office environment where administrative and financial management are supported by personal computers. To be successful the individual must have an understanding of the capabilities and limitations of microcomputers, be able to recommend personal productivity solutions to management,
purchase and install stand alone and networked microcomputers and software, write instructions for using applications, and provide training on new systems.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher.* Certificate requirements may only be completed by attending a combination of day and evening classes.

*Up to 11 units may be P.

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** Certificate of achievement - Construction supervision and superintendency

This program is designed for those preparing for supervision responsibilities in the construction industry.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements can be completed by attending classes in the day, the evening, or both.

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** Certificate of achievement - Construction management

This two-year program is designed to prepare students for positions in middle management or as technicians in the construction industry, working with a contractor, architect, engineer, or supplier and including such duties as material takeoff, estimating costs, purchasing, and timekeeping.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements can be completed by attending classes in the day, the evening, or both.

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** Certificate of achievement - Construction - CONST

Certificate of achievement - Construction and building inspection

This program is designed to prepare students for a career in building or construction inspection, and it is also valuable for those already employed in the field who wish to upgrade their skills.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Certificate requirements can be completed by attending classes in the day, the evening, or both.

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** Certificate of achievement - Dental assisting - DENTL

Certificate of achievement - Dental assisting

This program prepares students for administrative support and chair side assisting in dental offices, hospitals and clinics, insurance agencies, dental x-ray laboratories and supply houses. The program of classroom instruction and clinical experience leads to the certificate of achievement in dental assisting. To earn a certificate, students must complete each course used to meet a certificate requirement with a “C” grade or better.
Requirements for dental assisting courses are only available in the day. However, required general education courses are available in the day or evening.

The dental assisting program is accredited by the Commission on Dental Accreditation of the American Dental Association, and the United States Department of Education. Students completing the certificate are eligible to take California’s Registered Dental Assistant examination and the national Certified Dental Assistant examination.

Selected classes may meet lower division requirements for the bachelor degree at selected campuses of CSU or the bachelor of arts in health administration in private universities. Consult with college counselors for more information.

To be eligible for enrollment in the dental assisting program, students must complete the specified prerequisite course DENTL 120 (6 hour course), which is offered in the first two weeks of June. Students in the program must complete a health care provider cardiopulmonary resuscitation course and have a valid copy of the certification card on file in the Dental Assisting Office by January of their second semester.

program prerequisite units
DENTL 120 Orientation to the Dental Assisting Program.. 0.3

required course units
DENTL 171 Oral Facial Structures and Body Systems...... 3.5
DENTL 172 Dental Radiography I............................ 2
DENTL 173 Dental Operative Procedures I................ 2.5
DENTL 174 Dental Materials and Laboratory Procedures........................................ 2.5
DENTL 175 Infection Control, Oral Inspection, and Theories of Dental Assisting.............. 2.5
DENTL 180 Office Management................................ 3
DENTL 181 Dental Emergencies, Pharmacology and Oral Pathology............................ 2
DENTL 182 Dental Radiography II.............................. 2.5
DENTL 183 Advanced Dental Operative Procedures .... 4.5
DENTL 184 Clinical Experience............................ 7

plus at least 3 units from:
BUS 101* Business English...................................... 3
ENGL 118* College Writing Development.................. 3
ENGL 122* Freshman English: Composition and Reading.......................................................... 3

plus at least 3 units from:
PSYCH 122* Psychology in Modern Life.................... 3
PSYCH 101* General Introduction to Psychology ...... 3

plus at least 3 units from:
SPCH 120* Fundamentals of Speech.......................... 3
SPCH 121* Persuasion and Critical Thinking.............. 3
SPCH 128* Interpersonal Communication.................. 3

Total units required 41.3

* Students are expected to take one or two of these courses in the summer prior to entering the program. Those considering applying to the dental hygiene program are required to take English 122, Psychology 122 and Speech 121 unless they hold a baccalaureate degree or higher.

recommended course
DENTL 110 Overview of the Dental Profession............ 1.5
(Offered mid-Spring semester)

DENTAL HYGIENE – DENHY

Certificate of achievement - Dental hygiene
This two-year program of classroom instruction and clinical experience prepares students to perform the educational, clinical (teeth cleaning), and laboratory responsibilities of a dental hygienist. Students are prepared to take the National Board Examination, California Registered Dental Hygiene State Board examination and many other state board examinations. The program is accredited by the Commission on Dental Accreditation of the American Dental Association and by the United States Department of Education and approved by the California State Board of Dental Examiners.

To be eligible for enrollment into the dental hygiene program applicants must complete the specified prerequisite courses prior to submitting an application. All science prerequisite courses must be taken within the last five years.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Dental hygiene required program courses are only available in the day. However, required general education courses are available in the day or evening. Students who have the greatest success completing the dental hygiene program have taken the general education courses prior to application and have an overall GPA of 3.0 or higher.

Students in the dental hygiene program must present a current cardiopulmonary resuscitation card and results of a recent physical examination providing evidence of good health including tuberculosis clearance and immunizations at the beginning of their first semester. For dental hygiene program information and an application packet for enrollment contact the Dental Hygiene Department, Counseling Office or DVC website.

program prerequisites or equivalents units
BIOSC 120* Introduction to Human Anatomy and Physiology........................................... 5
CHEM 108* Introductory Chemistry...................... 4
CHEM 109* Introduction to Organic and Biochemistry..... 4
ENGL 122 Freshman English: Composition and Reading.......................................................... 3
NUTRI 160* Nutrition: Science and Applications....... 3

plus at least 4 units from:
BIOSC 119* Fundamentals of Microbiology............... 4
BIOSC 146* Principles of Microbiology................... 5

Total prerequisite units 23-24

* These courses must have been completed within the past five years.

required general education courses units
PSYCH 122 Psychology in Modern Life.................... 3
SOCIO 120 Introduction to Sociology..................... 3
SPCH 120 Fundamentals of Speech....................... 3

Total required general education units 9

dental hygiene program

required courses units
DENHY 101 Dental Hygiene Orientation.................. 0.3
DENHY 120 Introduction to Dental Hygiene: Theory, Process of Care and Practice.............. 1
DENHY 121 Introduction to Comprehensive Clinical Dental Hygiene Care.......................... 5
DENHY 122 Clinical Dental Hygiene I..................... 4
DENHY 123 Oral Health Care Education................. 2

DIABLO VALLEY COLLEGE CATALOG ADDENDUM 2009-2010 • 40 •
## Associate in arts degree – Technical theater

The program in technical theatre prepares students for an entry-level career in community and professional theater. Careers may include scene shop technician, property artisan, electrician, costume technician, makeup technician, scenic artist, or stage manager. The program also prepares students who wish to expand their careers to entry-level technical video and film positions, as well as entry into a four-year university or professional school.

While this program of study is not designed as a transfer program, selected courses in the program meet lower division requirements for the bachelor of arts degree at many California State University and University of California campuses. Consult with department faculty and a college counselor for more information.

Students must complete each course used to meet a major or certificate requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the certificate and/or degree. Students who wish to apply for the associate degree must also complete graduation requirements as listed in the catalog.

The technical theatre program is composed of seven core courses supplemented by fifteen restricted electives from which students select a minimum of nine units to meet their individual educational and career goals. The certificate program can also be used as the “major” that is required for the associate in arts degree in technical theatre at Diablo Valley College.

### Certiﬁcate of achievement - Technical theater

**Required courses**

- **ARCHI 130** Architectural Graphics I ........................................... 3
- **ART 105** Introduction to Drawing, Color, and Two-Dimensional Design .......................... 3
- **ART 106** Drawing and Composition ........................................... 3
- **ART 108** Figure Drawing II ................................................................ 3
- **ARTDM 130** Introduction to Digital Audio ..................................... 1.5
- **ARTDM 149** Introduction to Digital Video ....................................... 1.5
- **ARTDM 160** 3D Modeling and Animation I ..................................... 3
- **BCA 120** Introduction to TV Production Techniques ....................... 3
- **BCA 125** Introduction to Digital Film Style Production .................. 3
- **DRAMA 111** Fundamentals of Stage Production (Lighting) .................... 3
- **DRAMA 112** Stage Makeup .......................................................... 2
- **DRAMA 122** Basic Principles of Acting ....................................... 3
- **DRAMA 139** Introduction to Theater ........................................... 3
- **DRAMA 200** Introduction to Technical Theater ............................... 3
- **DRAMA 201** Technical Theater Laboratory .................................... 1-2

**Plus 3-4 units from:**

- **COOP 170A** Internship in Occupational Work Experience Education ..................... 1-4

**Plus at least 9 units from:**

- **ARCHI 130** Architectural Graphics I ........................................... 3
- **ART 105** Introduction to Drawing, Color, and Two-Dimensional Design .......................... 3
- **ART 106** Drawing and Composition ........................................... 3
- **ART 108** Figure Drawing II ................................................................ 3
- **ARTDM 130** Introduction to Digital Audio ..................................... 1.5
- **ARTDM 149** Introduction to Digital Video ....................................... 1.5
- **ARTDM 160** 3D Modeling and Animation I ..................................... 3
- **BCA 120** Introduction to TV Production Techniques ....................... 3
- **BCA 125** Introduction to Digital Film Style Production .................. 3
- **DRAMA 111** Fundamentals of Stage Production (Lighting) .................... 3
- **DRAMA 112** Stage Makeup .......................................................... 2
- **DRAMA 122** Basic Principles of Acting ....................................... 3
- **DRAMA 139** Introduction to Theater ........................................... 3
- **DRAMA 200** Introduction to Technical Theater ............................... 3
- **DRAMA 201** Technical Theater Laboratory .................................... 1-2

**Total units required** 27-29

### Recommended courses:

- **DENTL 110** Overview of the Dental Profession ............................. 1.5
- **DENHY 298** RDH Examination Preparation .................................. 0.5

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**DRAMA – DRAMA**

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**DENHY 124** Fundamentals of Radiology for the Dental Hygienist ................................... 2

**DENHY 125** Head and Neck Anatomy, Histology, and Embryology ................................ 4

**DENHY 126** Dental Morphology .......................................................... 2

**DENHY 127** Infection Control: Theory, Practice and Communication .................... 2

**DENHY 128** Periodontics for the Dental Hygienist ........................................... 2

**DENHY 129** Contemporary Dental Materials for the Dental Hygienist .................... 1.5

**DENHY 130** Clinical Dental Hygiene I .................................................. 2

**DENHY 131** Local Anesthesia ................................................................. 1

**DENHY 133** Behavioral Foundations and Communication Skills ....................... 1

**DENHY 134** Evaluation of Scientific Research ....................................... 1

**DENHY 135** Pharmacology for the Dental Hygienist .................................. 3

**DENHY 136** Dental Hygiene Care for Clients with Special Needs ..................... 1

**DENHY 219** Pathology .................................................................... 2

**DENHY 222** Ethics, Jurisprudence, and Practice Management ...................... 2

**DENHY 224** Integration of Dental Hygiene and Dentistry .......................... 1.5

**DENHY 225** Community Oral Health ................................................... 2

**DENHY 226** Community Oral Health Service Learning ......................... 1

**DENHY 227** Advanced Periodontal Dental Hygiene Care .......................... 2

**DENHY 230** Advanced Clinical Dental Hygiene Care I .......................... 6

**DENHY 231** Advanced Clinical Dental Hygiene Care II ............................ 6.5

**Total program units** 57.8

**Total units for the certificate** 89.8-90.8

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**DIABLO VALLEY COLLEGE CATALOG ADDENDUM 2009-2010 • 41 •**
EARLY CHILDHOOD EDUCATION –
ECE

Associate in science degree - Early childhood education

The associate in science program in early childhood education is designed as a two-year curricular pathway that offers students a broad general education while integrating an in-depth study in child development and theory, principles and practices in early care and education. The early childhood education program prepares students for various careers working directly with children, families and other adults in the early childhood profession.

To earn a degree, students must complete each of the course required for the major with a grade of “C” or higher and complete graduation requirements as listed in the catalog. Attending classes in the day, the evening or both can complete degree requirements.

### major requirements

- ECE 124  Child Development and Psychology ............... 3
- ECE 125  Introduction to Early Childhood Education..... 3
- ECE 126  Health, Safety and Nutrition for the Young Child ............................................. 3
- ECE 128  Curriculum Development for Young Children .................................................... 3
- ECE 130  Child, Family and Community .................. 3
- ECE 144  Diversity in Early Childhood Education .......... 3
- ECE 249  Introduction to ECE Theory and Practice ..... 4
- ECE 250  ECE Theory and Practice ............................... 4

**Total units for the major** 26

### recommended degree electives:


### Certificate of achievement - Early childhood education - Master teacher

This certificate meets the education requirements for the master teacher level of the Child Development Permit Matrix issued by the State of California Commission on Teacher Credentialing. After meeting additional experience requirements, graduates are qualified to apply for a Child Development Permit, which is required to work in federal and state funded programs for children aged 0-5.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Attending classes in the day, the evening or both can complete certificate requirements.

### required courses

- ECE 124  Child Development and Psychology ............... 3
- ECE 125  Introduction to Early Childhood Education..... 3
- ECE 126  Health, Safety and Nutrition for the Young Child ............................................. 3
- ECE 128  Curriculum Development for Young Children .................................................... 3
- ECE 130  Child, Family and Community .................. 3
- ECE 144  Diversity in Early Childhood Education .......... 3
- ECE 249  Introduction to ECE Theory and Practice ..... 4
- ECE 250  ECE Theory and Practice ............................... 4
- ECE 253  Adult Supervision in EC Classrooms ............ 2-3

**plus at least six units in any one of these areas of concentration:**

#### creative expression

- ECE 237* Topics in Current Theory, Research and Implementation ........................................ 0.5-3
- ECE 242  Music for the Young Child .............................................. 2
- ECE 243  Creative Art for the Young Child .............................................. 1

or one elective from ART 155, 160; or PEDAN 129, 130, 138, 142; or DRAMA 150; or MUSIC 101, 102, 120, 150, 151, 171; or MUSLT 112 ........................................... 1

#### family day care/foster care provider

- ECE 245  Introduction to Day Care ................................. 1
- ECE 246  Introduction to Foster Parenting ..................... 1.5
- ECE 247  Issues of Foster Parenting .............................. 1

#### infants and toddlers

- ECE 230  Infant and Toddler Care ................................. 3
- ECE 231  Infants and Toddlers: Issues and Applications .......... 3

#### language and literature

- ENGL 177  Children's Literature ........................................ 3
- ECE 237* Topics in Current Theory, Research and Implementation ................................. 0.5-3
- ECE 240  Language, Literacy, and Language for the Young Child ........................................ 3
- L111  Storytelling ..................................................... 2

#### science and math

- ECE 247  Issues of Foster Parenting ..................... 1.5
- ENGL 177  Children's Literature ........................................ 3
- ECE 237* Topics in Current Theory, Research and Implementation ................................. 0.5-3
- ECE 241  Science and Mathematics for Early Childhood Education ........................................ 3

(Not: Two ECE 237 courses in this category are required)

#### sign language

- SIGN 266  Sign Language: SEE I ............................................ 3
- SIGN 267  Sign Language: SEE II ............................................ 3
- SIGN 268  Sign Language: SEE III .......................................... 3
- SIGN 280  American Sign Language (ASL) I .................. 3
- SIGN 281  American Sign Language (ASL) II ............... 3
- SIGN 282  American Sign Language (ASL) III .............. 3

#### special needs

- ECE 129  Dealing with Difficult and Aggressive Young Children ............................................. 3
- ECE 137  Issues of Separation and Loss with Children and Families ............................................. 3
- ECE 263  The Special Needs Child – Speech, Language and Hearing ............................................. 1
- ECE 265  Working with Young Children with Special Needs ............................................. 2
- ECE 269  Introduction to Special Needs in Young Children ............................................. 3

or any sign language course:

- SIGN 266, 267, 268, 280, 281, or 282 ............................................. 3

**plus at least 16 units from:**

- general education courses ........................................ 16

(At least one course each from humanities, social science, science or math, and English)

**Total units required** 50-51

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*Topics for ECE 237 vary. Please contact the Early Childhood Education Department to verify if a ECE 237 course meets the requirements for a particular area of specialization.*
ENGINEERING AND ENGINEERING TECHNOLOGY – ENGIN

Associate in science degree - Civil design drafting technology
The associate in science degree in civil design drafting technology provides students with the technical and analytical skills needed for employment in the field of civil or structural engineering drafting. Through both academic and laboratory study students gain the practical skills needed for entry into the job market. For example, civil drafters may work on plans for major construction projects such as dams, roads, bridges, and sewage systems; or prepare, interpret and revise topographic and/or relief maps using computer-aided-drafting (CAD).

To earn the degree, students must complete each course used to meet a major requirement with a “C” grade or higher and complete graduation requirements as listed in the catalog. Students who wish to transfer should consult with program faculty and college counselors to insure that the requirements for transfer to appropriate institutions are met. Certain courses may satisfy both major and graduation requirements; however, the units are only counted once.

major requirements

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<th>Units</th>
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plus at least 3 units from:

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plus at least 3 units from:

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<td>MATEC 222</td>
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</tbody>
</table>

Total units for the major 34-37

Certificate of achievement - Civil design drafting technology
This certificate program prepares students for an entry level job as a civil drafter. Drafters work under the supervision of civil or structural engineers, architects, and/or surveyors as support staff in jobs requiring them to prepare, interpret, and revise technical drawings, or gather and categorize field data. Engineering technicians work as support staff in field, laboratory and/or office environments.

To earn a certificate of achievement, students must complete each of the required courses with a “C” grade or higher. Some courses are not offered every semester so please consult with the program director for assistance in scheduling classes.

required courses

<table>
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<tr>
<th>Course</th>
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</thead>
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<tr>
<td>CON1 114</td>
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DIABLO VALLEY COLLEGE CATALOG ADDENDUM 2009-2010 • 43 •
Certificate of achievement - Civil drafting, CAD
This certificate program prepares students for further study or an entry-level training position in jobs requiring them to prepare and revise technical drawings used in civil engineering and surveying.

To earn a certificate of achievement, students must complete each of the required courses with a “C” grade or higher. Some courses are not offered every semester so please consult with the program director for assistance in scheduling classes.

Certificate of accomplishment - Drafting with CAD
This certificate program is coursework which may lead to completion of higher unit certificates or an associate in science degree in the subject area.

Drafters make drawings and plans to specify dimensions, materials and processes used in the making of a final product. These drawings are guidelines for the workers who will actually build or make whatever is being produced. Drafters also make drawings from blueprints, engineering sketches, photos and other sources which show how parts and other objects work, their relation to one another, and how they will be put together.

Drafting work has many specialties, each with its own set of knowledge and skills and each applying to different fields. The five major specialties are: architectural (see architecture in the DVC catalog), civil, electrical and electronic (see electronics in the DVC catalog) and mechanical. This program introduces students to the fields of mechanical or civil engineering drafting.

To earn a certificate of accomplishment, students must complete each of the required courses with a “C” grade or higher. Some courses are not offered every semester so please consult with the program director for assistance in scheduling classes.
### GEOGRAPHY – GEOG

#### Associate in science degree - Geographic information systems/Global positioning system

The associate in science degree program in geographic information systems (GIS)/global positioning system (GPS) is designed to prepare students for entry into careers that employ generalized or specialized applications of GIS. GIS is a versatile and powerful technology that allows data input, data management, analysis and display of result within a single setup. Most local, state, and federal government agencies use GIS, as do businesses, planners, architects, foresters, geologists and a host of other occupations. Students learn technical and analytical skills for research as well as practical skills necessary to enter the job market and obtain positions with such titles as GIS technician, GIS specialist, GIS analyst, GIS programmer, GIS coordinator, GIS supervisor and GIS manager.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

**required courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 125</td>
<td>Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 126</td>
<td>Advanced Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 127</td>
<td>Introduction to Global Positioning Systems (GPS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 128</td>
<td>Advanced Global Positioning Systems (GPS)</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 160</td>
<td>Remote Sensing</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 162</td>
<td>Maps and Cartography</td>
<td>3</td>
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</tbody>
</table>

**plus at least 6 units from:**

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>COMSC 100</td>
<td>Introduction to Computer and Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>COMSC 100L</td>
<td>Introduction to Computer Software</td>
<td>1</td>
</tr>
<tr>
<td>COMSC 110</td>
<td>Introduction to Programming</td>
<td>4</td>
</tr>
<tr>
<td>COMSC 138</td>
<td>Using Visual Basic for Applications</td>
<td>2</td>
</tr>
<tr>
<td>COMSC 172</td>
<td>UNIX and Linux Administration</td>
<td>2</td>
</tr>
<tr>
<td>COMSC 245</td>
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<td>4</td>
</tr>
<tr>
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<td>Programming with Java</td>
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</tr>
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<tr>
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<tbody>
<tr>
<td>ANTHR 126</td>
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<td>3</td>
</tr>
<tr>
<td>BIOSC 126</td>
<td>Nature Study and Conservation</td>
<td>4</td>
</tr>
<tr>
<td>BIOSC 170</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
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**Certificate of achievement - Geographic information systems/Global positioning system**

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<tr>
<td>COOP 170</td>
<td>Occupational Work Experience</td>
<td>1-3</td>
</tr>
</tbody>
</table>

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**Total units required** 45-46 15-17
Association in science- Behavioral Health

The proposed Associate of Science (AS) degree in behavioral health exposes the student to a multi-dimensional approach to health by incorporating the study of social, behavioral and physiological sciences. Students will learn about risk factors for disease and disability and be taught behavior-changing skills, all of which have broad applications in fields that teach health education such as academic, community, corporate, and/or medical. The course of study also provides a broad foundation in health sciences for those students who want to pursue specialized occupations in the health profession.

Students may apply the knowledge to work in areas such as a Workplace Wellness, County Health Department, hospital/health insurance, health education center, state or university health center, Planned Parenthood, or any health club that offers health education information. Students wishing to pursue a career in the field of public health education should consider this two year program as it provides preparation for baccalaureate degrees useful in the field of health education.

DVC behavioral health students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU Breadth). General education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in science degree with a major in behavioral health, students must complete each course used to meet a major requirement with a “C” grade or higher and complete all graduation requirements as listed in the catalog. Degree requirements can be completed by attending classes in the day, the evening, or both. Certain courses may satisfy both a major and a graduation requirement; however the units are only counted once.

<table>
<thead>
<tr>
<th>required courses</th>
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<tbody>
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<tr>
<td>HORT 141</td>
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<tr>
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<td>HORT 145</td>
<td>3</td>
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<td>HORT 147</td>
<td>3</td>
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<tr>
<td>HORT 161</td>
<td>3</td>
</tr>
<tr>
<td>HORT 164</td>
<td>3</td>
</tr>
<tr>
<td>HORT 179</td>
<td>3</td>
</tr>
<tr>
<td>HORT 298</td>
<td>0.5-3</td>
</tr>
</tbody>
</table>

Certificate of achievement - Horticulture

This broad program prepares students for employment in plant production, pest management and retail nurseries. It will assist students preparing to take the California Association of Nurseryperson’s exam and the arboriculture certification exam.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and on weekends.

<table>
<thead>
<tr>
<th>recommended courses</th>
<th>units</th>
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<tbody>
<tr>
<td>BIOC 101-102</td>
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<tr>
<td>BIOC 205</td>
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<tr>
<td>HORT 141L</td>
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<tr>
<td>HORT 143L</td>
<td>1</td>
</tr>
<tr>
<td>HORT 147L</td>
<td>1</td>
</tr>
</tbody>
</table>

Associate in arts in letters and science - area of emphasis - Humanities

This degree program is designed for students who wish to study a broad range of college courses and complete additional coursework in an “area of emphasis”. Programs with an area of emphasis are designed to allow students to engage in an interdisciplinary study of a subject that is not limited to a single discipline. Many areas of emphasis programs provide preparation for study at four-year institutions.

The humanities area of emphasis is comprised of courses that integrate the different arts: music, dance, visual arts, architecture, literature, drama, philosophy and history. The area of...
emphasizes a well-rounded and rich background in the creative and intellectual expression of major world civilizations, intellectual and cultural movements, and individual works of creative expression. Humanities students develop skills in artistic analysis, aesthetic judgments, and other modes of critical thinking. Students develop the ability to view cultural material from multiple perspectives, appreciate and evaluate diverse forms of cultural expression, and understand the criticism and theory regarding major artistic works, styles, forms, and movements.

DVC Humanities students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select either General Education Option 2 (IGETC) or Option 3 (CSU Breadth). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in arts degree with an area of emphasis in humanities, students must complete each required course with a “C” grade or higher and complete all graduation requirements as listed in the catalog. Degree requirements can be completed by attending classes in the day, the evening, or both. Certain courses may satisfy both an area of emphasis and a graduation requirement; however, the units are only counted once.

**area of emphasis requirements** units

**complete 6 units from:**

- HUMAN 105 Introduction to Humanities: Arts and Ideas... 3
- HUMAN 108 The Roots of Hell........................................ 3
- HUMAN 110 Introduction to Humanities: Ancient Civilizations (to 500 A.D.) ........................................... 3
- HUMAN 111 Introduction to Humanities: Middle Ages and Renaissance (500 A.D. - 1700 A.D.)...................... 3
- HUMAN 112 Introduction to Humanities: The Modern World (1700-present)............................................. 3
- HUMAN 115 Introduction to Humanities: The American Multicultural Experience............................................. 3
- HUMAN 116 The Arts and Culture of Asia.......................... 3
- HUMAN 118 Film, Fiction, and Criticism......................... 3
- HUMAN 120 Introduction to Humanities: The African American Experience.................................................. 3
- HUMAN 123 American Popular Culture............................ 3

**complete 3 units from:**

- PHILO 120 Introduction to Philosophy.............................. 3
- PHILO 122 Introduction to Ethics .................................. 3
- PHILO 130 Critical Thinking: Reasoning in Everyday Life .......... 3
- PHILO 140 Introduction to Judaeo-Christian Tradition ....... 3
- PHILO 141 Introduction to the Philosophy of Religion........ 3
- PHILO 150 Topics in Philosophy .................................... 3
- PHILO 220 Comparative Religion .................................... 3
- PHILO 221 Contemporary Religious Movements................ 3
- PHILO 224 History of Western Philosophy: Pre-Socrates to Medieval Period.................................................. 3
- PHILO 225 History of Western Philosophy: Descartes to Present................................................................. 3

**complete 3 units from**

- ARCHI 155 History of Architecture: Europe and the World .......................................................... 3
- ARTHS 193 History of Asian Art ...................................... 3
- ARTHS 195 History of Prehistoric and Ancient Art .......... 3
- ARTHS 196 History of Medieval and Renaissance Art ....... 3
- ARTHS 197 History of Baroque to Early 20th Century Art.. 3
- ARTHS 190 Topics in Art History ................................... 3

**ARTHS 199 Contemporary Art History.......................... 3**

**DANCE 201 Western Culture Dance History: 20th Century to Present......................................................... 3**

**DRAMA 141 History of the Theater from: 17th Century to the Present.......................................................... 3**

**DRAMA 142 Multicultural Perspectives in American Theater................................................................................. 3**

**DRAMA 181 Literature of World Drama: 17th Century to Present................................................................. 3**

**ENGL 123 Critical Thinking: Composition and Literature.................................................................................. 3**

**ENGL 126 Critical Thinking: The Shaping of Meaning in Language................................................................. 3**

**ENGL 150 Introduction to Literature................................ 3**

**ENGL 151 The Short Story................................................. 3**

**ENGL 154 Shakespeare and His World............................. 3**

**ENGL 155 Studies in Literature ........................................ 3**

**ENGL 170 World Mythology ............................................. 3**

**ENGL 180 Literature of the Drama.................................... 3**

**ENGL 253 Survey of Late English Literature.................. 3**

**ENGL 272 Early World Literature.................................... 3**

**ENGL 273 Late World Literature...................................... 3**

**MUSLT MUSIC 110 Sounds of Music: Introduction to Music Literature.............................................................. 3**

**MUSLT 112 America’s Music - A Multicultural Perspective.......................................................... 3**

**MUSLT 114 World Music................................................. 3**

**MUSLT 117 History of Rock and R&B.............................. 3**

**MUSLT 118 History of Jazz.............................................. 3**

**Total units for area of emphasis** 18

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**LIBRARY STUDIES – L AND LS**

**Associate in science degree**

Library and information technology

**Certificate of achievement**

Library and information technology

**Associate in science degree - Library and information technology**

The associate in science degree in library and information technology prepares students for employment in the dynamic field of library and information services. The skills learned in this program may be used in public, school, academic, and corporate libraries, as well as in other positions requiring information management skills. If you like working with people, books and information, consider a career in library and information technology.

To earn the degree, students must complete each course used to meet a major requirement with a “C” grade or higher, maintain an overall GPA of 2.5 or higher in the coursework required for the major and complete all graduation requirements as listed in the catalog. Required classes are available online, in the evening, and some are offered in the day. Certain courses may satisfy both a major and a graduation requirement; however the units are only counted once. Other electives and course substitutions not listed below are possible with department chairperson approval.
### Certificate of achievement - Library and information technology

This certificate program prepares students for employment in the dynamic field of library and information services. The skills learned in this program may be used in public, school, academic, and corporate libraries, as well as in other jobs or businesses requiring information management skills. If you like working with people, books and information, consider a career in library and information technology.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher and maintain an overall GPA of 2.5. Required classes are available online, in the evening and some are offered in the day. Other electives and course substitutions not listed below are possible with department chairperson approval.

<table>
<thead>
<tr>
<th>Major requirements</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 100</td>
<td>Introduction to a Career in Library and Information Technology</td>
</tr>
<tr>
<td>L 103</td>
<td>Access to Library Materials</td>
</tr>
<tr>
<td>L 104</td>
<td>Cataloguing for Paraprofessionals</td>
</tr>
<tr>
<td>L 105</td>
<td>Reference and Research Services: Tools and Techniques</td>
</tr>
<tr>
<td>L 108</td>
<td>Acquisition of Library Materials</td>
</tr>
<tr>
<td>LS 121</td>
<td>Information Literacy and Research Skills</td>
</tr>
</tbody>
</table>

**plus at least 2 units from:**

| COOP 170  | Occupational Work Experience Education | 1-4 |
| COOP 170A | Internship in Occupational Work Experience Education | 1-4 |

**plus at least 2-6 units from:**

| ENGL 177 | Children’s Literature | 3 |
| L 109   | Delivering Library Services: Issues, Theory and Techniques | 2 |
| L 111   | Storytelling | 2 |
| L 112   | Internet Skills for Library Personnel | 1 |
| L 114   | Developing Web Pages for Library Information | 2 |
| L 150   | Topics in Library and Information Technology | 0.3-4 |
| LS 130  | Internet and Online Research | 1 |
| LS 150  | Topics in Library Studies | 0.3-4 |

**plus at least 0-6 units from:**

| ARTDM 100 | Introduction to Multimedia Workstations | 4 |
| ARTDM 110 | Digital Imaging Process and Technique I | 1.5 |
| ARTDM 117 | Web Design | 3 |
| BUSMG 121 | Practices and Concepts of Supervision | 3 |
| COMSC 100 | Introduction to Computers and Information Systems | 3 |
| COOP 170 | Occupational Work Experience Education | 1-4 |
| COOP 170A | Internship in Occupational Work Experience Education | 1-4 |

**Total units for the major** | **19**

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### Certificate of achievement - Music industry studies

This certificate program prepares students for a career in the music industry. The program has an entrepreneurial focus emphasizing an industry trend requiring artists to be responsible for complete project development. The program is designed to produce well-rounded music industry professionals capable of all aspects of the music production process including recording, marketing, and distribution. The same skill-set also prepares students for careers in specialized areas of the music industry such as digital audio workstation operator, recording engineer, producer, composer, arranger, songwriter, sound designer, artist manager, distributor, and marketing representative.

To earn a certificate of achievement, students must complete the required courses with a “C” grade or higher. Required courses are available in the evening and during the day.

<table>
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<tr>
<th>Required courses</th>
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<tbody>
<tr>
<td>MUSIC 124</td>
<td>Introduction to Music Production and Multi-track Recording</td>
</tr>
<tr>
<td>MUSIC 127</td>
<td>Introduction to Electronic Music and MIDI</td>
</tr>
<tr>
<td>MUSIC 137</td>
<td>Advanced Electronic Music</td>
</tr>
<tr>
<td>MUSIC 174</td>
<td>Introduction to ProTools</td>
</tr>
<tr>
<td>MUSIC 175</td>
<td>Advanced ProTools</td>
</tr>
<tr>
<td>MUSIC 181</td>
<td>Introduction to the Music Industry</td>
</tr>
</tbody>
</table>

**Total units required** | **19**
ASSOCIATE IN SCIENCE DEGREE

The associate in science degree program offers an opportunity for students to earn an associate degree before transferring to a four-year college or university. The associate in science degree program is designed for students interested in pursuing a variety of careers in fields including, but not limited to, science, technology, engineering, and mathematics (STEM). The program provides a strong foundation in core courses and allows students to choose from a variety of electives to tailor their degree to their career goals.

Majors are categorized into the following areas:

- **Physical Education**
- **Psychology**
- **Business**
- **Engineering**
- **Science**
- **Nursing**
- **Arts**
- **Sociology**
- **Computer Science**
- **Environmental Science**

To complete an associate in science degree, students must fulfill the following requirements:

**General Education Requirements**

- **Mathematics**
- **Science**
- **Social Science**
- **Humanities**
- **Human Behavior**
- **Electives**

**Major Requirements**

Each major has specific course requirements that must be fulfilled. Students must select courses that align with their career goals and interests. Course requirements may include prerequisites, which must be completed before enrolling in the major courses.

**Graduation Requirements**

- **Minimum GPA**
- **Course Completion**
- **Transcript Submission**

Students are encouraged to consult with their academic advisors to ensure they are on track to meet all graduation requirements.

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**PHYSICAL EDUCATION THEORY – PETHE**

Associate in science degree - Sports medicine/athletic training

The associate in science degree in sports medicine/athletic training program is a two-year course of study designed for students interested in becoming allied health professionals such as athletic trainers or physical therapists. It combines academic, laboratory, and clinical experience to prepare students for further study or to obtain employment as an entry-level rehabilitation/allied health paraprofessional. Earning this degree may facilitate the student's transfer to a four-year college and/or professional program. Students who wish to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to appropriate institutions of their choice are met.

Students must complete each course used to meet a major requirement with a "C" grade or higher, maintain an overall GPA of 2.75 or higher, and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both a major and a graduation requirement; however, the units are only counted once.

**Major Requirements**

- **Bioscience**
  - **Biosc 139** Human Anatomy....................................................... 5
  - **Hsci 124** Health and Wellness.................................................. 3
  - **Pethe 279** Overview of Sports Medicine and Fitness
    - **Pethe 281** Principles of Optimizing Human Performance............... 3
  - **Pethe 282** Exercise Techniques and Physical Fitness Testing........... 1
  - **Pethe 283** Introduction to Sports Massage................................. 1.5
  - **Pethe 284** Introduction to Sports Medicine and Athletic Training........ 3
  - **Pethe 285** Advanced Sports Medicine and Athletic Training............ 3
  - **Pethe 286** Clinical Experiences in Sports Medicine and Athletic Training I................................................................. 3
  - **Pethe 287** Clinical Experiences in Sports Medicine and Athletic Training II................................................................. 3
  - **Pethe 288** Clinical Experiences in Sports Medicine and Athletic Training III............................................................................ 3
  - **Psych 240 101** General Introduction to Psychology....................... 3

**Plus at least 3 units from:***

- **Biosc 101** or 102 Fundamentals of Biological Science...3-4
- **Biosc 116** or 117 Human Biology................................................. 3-4
- **Biosc 130** Principles of Cellular and Molecular Biology.................. 3-4
- **Biosc 140** Human Physiology....................................................... 5

**Total Units Required**

7 23

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**PSYCHOLOGY – PSYCH**

Associate in arts in letters and science with an area of emphasis - Psychology

The Psychology major at Diablo Valley College (DVC) provides students with an introduction to psychology as the scientific study of thought, feeling, and behavior, and a helping profession dedicated to solving human problems. The associate degree curriculum offers a broad general education, meets lower division requirements for many transfer university bachelor's degree programs in psychology, and prepares students for entry-level positions in a variety of interpersonal careers. Associate degree graduates may assist psychologists and others in mental health centers, hospitals, child welfare agencies, correctional facilities, schools, and business settings.

Psychology includes a variety of sub-fields including clinical, counseling, developmental, forensic, social, cognitive, biological, and personality psychology. This associate degree in psychology can also provide preparation for transfer to a four-year institution. Transfer and graduate studies in psychology can lead to careers as psychotherapists, college professors, scientific researchers, administrators, and business consultants.

Students who intend to transfer must consult with a program advisor or counselor to ensure that the requirements for transfer to four-year institutions of their choice are met. Students who intend to transfer are advised to select General Education Option 2 (IGETC) or option 3 (CSU Breadth). General Education Option 1 (DVC General Education) is appropriate for students who do not intend to transfer.

To earn an associate in arts degree with a major in psychology, students must complete each course used to meet a major requirement with a "C" grade or higher and complete all graduation requirements as listed in the catalog. Certain courses may satisfy both a major and a graduation requirement; however, the units are only counted once. Some variations in requirements may exist at certain four-year institutions; therefore, students who intend to transfer are advised to refer to the catalog of the prospective transfer institution and consult a counselor.

**Major Requirements**

- **Psych 145** Critical Thinking in Psychology..................................... 3
- **Psych 240 101** General Introduction to Psychology........................ 3
- **Psych 215** Research Methods in Psychology.................................... 3
- **Math 142** Elementary Statistics with Probability............................ 4

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DIABLO VALLEY COLLEGE CATALOG ADDENDUM 2009-2010 • 49 •
This entry-level program prepares students with practical skills and knowledge to work with people with disabilities in a variety of educational and rehabilitation settings. Additionally, the courses are intended to introduce students to career opportunities in special education or other disability related fields, and can provide preparation for transfer to four-year institutions to continue a course of study in general education and special education. Classes are designed to serve working individuals wishing to improve their applied skills and professional growth.

To earn a certificate of achievement, students must complete each course used to meet a major requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ECE 124</td>
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<tr>
<td>PSYCH 122</td>
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<tr>
<td>SPEDU 101</td>
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<tr>
<td>SPEDU 102</td>
<td>3</td>
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<tr>
<td>SPEDU 103</td>
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plus at least 1 unit from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>COUNS 115</td>
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<tr>
<td>PSYCH 115</td>
<td>1</td>
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</table>

plus 2-4 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>COOP 170</td>
<td>1-4</td>
</tr>
<tr>
<td>COOP 170A</td>
<td>1-4</td>
</tr>
</tbody>
</table>

SPECIAL EDUCATION – SPEDU

Associate in arts degree - Special education paraeducator/instructional assistant

The associate in arts degree in special education paraeducator/instructional assistant is designed as a two-year curricular pathway that offers students a broad general education while integrating an in-depth study of the skills and knowledge required to work with people with various disabilities in a variety of educational and related rehabilitation settings. The courses are intended to introduce students to career opportunities in special education or other disability related fields, and can provide preparation for transfer to four-year institutions to continue their course of study in general education and special education. Classes are designed to serve working individuals wishing to improve their applied skills and professional growth.

To earn a degree, students must complete each course used to meet a major requirement with a “C” grade or higher. Required courses are available in the evening and during the day. Certain courses may satisfy both a major and a graduation requirement; however, the units are only counted once. Students who intend to transfer to a four-year program in education/teacher preparation should consult with a counselor regarding specific requirements.

major requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 124</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 122</td>
<td>3</td>
</tr>
<tr>
<td>SPEDU 101</td>
<td>3</td>
</tr>
<tr>
<td>SPEDU 102</td>
<td>3</td>
</tr>
<tr>
<td>SPEDU 103</td>
<td>3</td>
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</tbody>
</table>

plus at least 1 unit from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COUNS 115</td>
<td>1</td>
</tr>
<tr>
<td>PSYCH 115</td>
<td>1</td>
</tr>
</tbody>
</table>

plus 2-4 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOP 170</td>
<td>1-4</td>
</tr>
<tr>
<td>COOP 170A</td>
<td>1-4</td>
</tr>
</tbody>
</table>

Certificate of achievement - Special education paraeducator/instructional assistant

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 124</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 122</td>
<td>3</td>
</tr>
<tr>
<td>SPEDU 101</td>
<td>3</td>
</tr>
<tr>
<td>SPEDU 102</td>
<td>3</td>
</tr>
<tr>
<td>SPEDU 103</td>
<td>3</td>
</tr>
</tbody>
</table>

Certificate of achievement - Special education paraeducator/instructional assistant

This entry-level program prepares students with practical skills and knowledge to work with people with disabilities in a variety of educational and rehabilitation settings. Additionally, the courses are intended to introduce students to career opportunities in special education or other disability related fields, and can provide preparation for transfer to four-year institutions to continue a course of study in general education and special education. Classes are designed to serve working individuals wishing to improve their applied skills and professional growth.

To earn a certificate of achievement, students must complete each course used to meet a certificate requirement with a “C” grade or higher. Required courses are available in the evening and during the day.

required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 124</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 122</td>
<td>3</td>
</tr>
<tr>
<td>SPEDU 101</td>
<td>3</td>
</tr>
<tr>
<td>SPEDU 102</td>
<td>3</td>
</tr>
<tr>
<td>SPEDU 103</td>
<td>3</td>
</tr>
</tbody>
</table>

plus at least 1 unit from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COUNS 115</td>
<td>1</td>
</tr>
<tr>
<td>PSYCH 115</td>
<td>1</td>
</tr>
</tbody>
</table>

plus 2-4 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOP 170</td>
<td>1-4</td>
</tr>
<tr>
<td>COOP 170A</td>
<td>1-4</td>
</tr>
</tbody>
</table>

DIABLO VALLEY COLLEGE CATALOG ADDENDUM 2009-2010 • 50 •
plus at least 6 units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 125</td>
<td>Introduction to Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE 126</td>
<td>Health, Safety and Nutrition for the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>ECE 128</td>
<td>Curriculum Development for the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>ECE 263</td>
<td>The Special Needs Child-Speech, Language and Hearing</td>
<td>1</td>
</tr>
<tr>
<td>ECE 265</td>
<td>Working with Young Children with Special Needs</td>
<td>2</td>
</tr>
<tr>
<td>ECE 269</td>
<td>Introduction to Special Needs in Young Children</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 120</td>
<td>Teaching as a Profession</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 122</td>
<td>Introduction to Reading Development and Interventions for K-3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 125</td>
<td>Principles of Numbers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 124</td>
<td>Mathematics for Liberal Arts</td>
<td>3</td>
</tr>
<tr>
<td>SIGN 266</td>
<td>Sign Language: SEE I</td>
<td>3</td>
</tr>
<tr>
<td>SIGN 267</td>
<td>Sign Language: SEE II</td>
<td>3</td>
</tr>
<tr>
<td>SIGN 280</td>
<td>American Sign Language (ASL) I</td>
<td>3</td>
</tr>
<tr>
<td>SIGN 281</td>
<td>American Sign Language (ASL) II</td>
<td>3</td>
</tr>
<tr>
<td>SIGN 282</td>
<td>American Sign Language (ASL) III</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total units required**: 24-26
## IV CHANGES to COURSES

### COURSES ADDED

## ADDICTION STUDIES – ADS

**ADS-299**  
**Student Instructional Assistant**

<table>
<thead>
<tr>
<th>Units</th>
<th>Type</th>
<th>Notes</th>
</tr>
</thead>
</table>
| .5-3 | SC   | May be repeated three times  
|      |      | Variable hours  
|      |      | Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor. |

Students work as instructional assistants, lab assistants and research assistants in the Addiction Studies Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

## ADMINISTRATION OF JUSTICE – ADJUS

**ADJUS-299**  
**Student Instructional Assistant**

<table>
<thead>
<tr>
<th>Units</th>
<th>Type</th>
<th>Notes</th>
</tr>
</thead>
</table>
| .5-3 | SC   | May be repeated three times  
|      |      | Variable hours  
|      |      | Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor. |

Students work as instructional assistants, lab assistants and research assistants in the Administration of Justice Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

## ALTERNATE ENERGY TECHNOLOGIES – AET

**AET-140**  
**Solar Thermal Systems**

<table>
<thead>
<tr>
<th>Units</th>
<th>Type</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 4     | LR   | 54 hours lecture/54 hours laboratory per term  
|      |      | Note: The lab part of this course will include working with hand and power tools and metal soldering. |

This course will cover the theory and application of solar thermal systems. This includes solar water heating for domestic use, radiant floor heating, swimming pools and spas. Additional topics include solar air heating and applications of power concentration. CSU

**AET-260**  
**Solar Photovoltaic and Thermal Installation Techniques**

<table>
<thead>
<tr>
<th>Units</th>
<th>Type</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 2     | LR   | 27 hours lecture/27 hours laboratory per term  
|      |      | Prerequisite: AET 140 or equivalent  
|      |      | Note: This course will include activities working with high voltages and working on elevated surfaces. Class activities include climbing ladders, lifting up to 50 pounds and working in crawl spaces and tight areas. |

This course will cover the techniques, tools, materials used in the installation of solar photovoltaic and solar thermal systems. This course will also cover the OSHA safety requirements for ladder, roof, fall-protection systems, scissor lifts and forklifts. CSU

**AET-299**  
**Student Instructional Assistant**

<table>
<thead>
<tr>
<th>Units</th>
<th>Type</th>
<th>Notes</th>
</tr>
</thead>
</table>
| .5-3 | SC   | May be repeated three times  
|      |      | Variable hours  
|      |      | Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor. |

Students work as instructional assistants, lab assistants and research assistants in the Alternate Energy Technology Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

## ANTHROPOLOGY – ANTHR

**ANTHR-299**  
**Student Instructional Assistant**

<table>
<thead>
<tr>
<th>Units</th>
<th>Type</th>
<th>Notes</th>
</tr>
</thead>
</table>
| .5-3 | SC   | May be repeated three times  
|      |      | Variable hours  
|      |      | Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor. |

Students work as instructional assistants, lab assistants and research assistants in the Anthropology Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU
ARCHITECTURE – ARCHI

ARCHI-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Architecture Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

ART – ART

ART-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Art Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

ART DIGITAL MEDIA – ARTDM

ARTDM-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Art Digital Media Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

ART HISTORY – ARTHS

ARTH-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Art History department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

ASTRONOMY – ASTRO

ASTRO-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Astronomy Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

BIOLOGICAL SCIENCE – BIOSC

BIOSC-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Biological Science Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

BROADCAST COMMUNICATION ARTS – BCA

BCA-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Broadcast Communication Arts Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU
BUSINESS – BUS

BUS-097NC Computer Essentials
0 unit
- Non degree applicable
- 18 hours laboratory by arrangement per term
- Note: This is a non-credit open entry/open exit self-paced class. Students work in the lab with an instructor and on their own to complete the nine learning sections of this course.

A class to introduce students to basic computer concepts and skills needed for business studies, such as logging on, working online, using computers to create documents, and saving one's work.

BUS-299 Student Instructional Assistant
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Business Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

BUSINESS ACCOUNTING – BUSAC

BUSAC-299 Student Instructional Assistant
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Business Accounting Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

CHEMISTRY – CHEM

CHEM-299 Student Instructional Assistant
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Chemistry Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

CHINESE – CHIN

CHIN-299 Student Instructional Assistant
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Chinese Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

CONSTRUCTION – CONST

CONST-180 Building Codes Use and Occupancy Types
3 units SC
- May be repeated once
- 54 hours lecture per term

Acquaints the student with legal requirements associated with building classification. Development of checklists and knowledge of a nonstructural plan check review. CSU

CONST-299 Student Instructional Assistant
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Construction Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

CULINARY ARTS – CULN

CULN-154 Menu Development and Planning
2 units SC
- 36 hours lecture per term

This course provides learners with an opportunity to plan and develop basic restaurant menus, displaying a diversity of techniques and flavors within a variety of food service establishments. Healthy menus, culturally diverse menus, seasonal and regional menus are addressed. CSU

CULN-175 Meat, Poultry and Fish Fabrication
2 units SC
- 36 hours lecture per term

This course provides students with a comprehensive meat identification process, including cuts, buying and ordering procedures, nutrition data, food safety and storage, and USDA grading standards. CSU
CULN-299  Student Instructional Assistant  
.5-3 units  SC  
• May be repeated three times  
• Variable hours  
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  

Students work as instructional assistants, lab assistants and research assistants in the Culinary Arts Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

DANCE – DANCE

DANCE-299  Student Instructional Assistant  
.5-3 units  SC  
• May be repeated three times  
• Variable hours  
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  

Students work as instructional assistants, lab assistants and research assistants in the Dance Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

DENTAL ASSISTING – DENTL

DENTL-299  Student Instructional Assistant  
.5-3 units  SC  
• May be repeated three times  
• Variable hours  
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  

Students work as instructional assistants, lab assistants and research assistants in the Dental Assisting Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

DENTAL HYGIENE – DENHY

DENHY-299  Student Instructional Assistant  
.5-3 units  SC  
• May be repeated three times  
• Variable hours  
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.  

Students work as instructional assistants, lab assistants and research assistants in the Dental Hygiene Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

EARLY CHILDHOOD EDUCATION – ECE

ECE-123  Introduction to Curriculum in ECE  
3 units  LR  
• 54 hours lecture per term  
• Prerequisite: ECE 124 or equivalent (may be taken concurrently)  
• Recommended: Eligibility for ENGL 122 or equivalent  
• Note: Meets the Department of Social Services licensing for DSS III Program and Curriculum Development  

This course will prepare students to plan developmentally appropriate curriculum for Early Childhood Education age children (0-8 years). It will address the novice student/teacher as well as those who have experience as students/teachers. CSU
ECE-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Electrical Engineering Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

ECON-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Economics Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

ELECT-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Electricity Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

ELTRN-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Electronics Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

ENGIN-258  Introduction to Solid Mechanics
3 units  LR
- 54 hours lecture/18 hours laboratory per term
- Prerequisite: ENGIN 255 or equivalent
- Co-requisite: MATH 294 or equivalent (may be taken previously)

This course covers the fundamentals of solid mechanics. Definitions of stress and strain and their relationship in two and three dimensional problems are presented. Stress and strain transformations are discussed. Equations for torsion and bending of bars are derived and deflection of beams and shafts are studied. Buckling of columns and energy methods are also covered. CSU

ENGIN-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Engineering Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

FILM-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Film Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

FRNCH-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the French Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help
the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

GEOGRAPHY – GEOG

GEOG-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Geography Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

HEALTH SCIENCE – HSCI

HSCI-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Health Science Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

HISTORY – HIST

HIST-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the History Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU
HORTICULTURE – HORT

HORT-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Horticulture Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

LEARNING SKILLS – LRNSK

LRNSK-065 Perspectives on Disability: Developing Self-Advocacy Skills
1 unit LR
• Non degree applicable
• 18 hours lecture per term
• Note: For more information, see Disability Support Services Counselor.

This course is designed to provide information to students with disabilities regarding their rights, responsibilities, and obligations in receiving support services in both the college and employment settings. Students will learn about the federal laws (Americans with Disabilities Act (ADA) and Section 504 of the Federal Rehabilitation Act) that afford students/employees with disabilities the right to academic adjustments and accommodations while taking college course work and in employment settings. The emphasis of the course will be developing self-advocacy skills related to requesting, utilizing, and managing their academic adjustments (e.g., test accommodations, books in an alternative format, notetakers) and accommodations (e.g., interpreters for the deaf, brailled materials, redistribution of job duties). Course content will be taught through lectures, role playing, class discussions, video presentations, and guest speakers.

HUMANITIES – HUMAN

HUMAN-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Humanities Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

MATHEMATICS – MATH

MATH-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Math Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

JAPANESE – JAPAN

JAPAN-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Japanese Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

MUSIC – MUSIC

MUSIC-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Music Department. The instructional assistants function as group discussion leaders, meet and assist
students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

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**OCEANOGRAPHY – OCEAN**

**OCEAN-299 Student Instructional Assistant**

.5-3 units SC

- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Oceanography Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

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**PHYSICAL EDUCATION – PE**

**PE-122 Fitness Center-Strength Training**

.5-2 units SC

- May be repeated three times
- Variable hours

This is an activity course designed to increase muscular strength and endurance utilizing plate-loaded apparatus, free weights, selectorized weight machines, and Olympic lifting techniques. Students will be required to attend two mandatory meetings (orientation and final exam), that will be designated in the schedule of classes. CSU

**PE-189 Men’s Lacrosse**

.5-2 units SC

- May be repeated three times
- Variable hours
- Note: Students must supply their own protective equipment and lacrosse stick

This is an activity course emphasizing the fundamental skills and strategies of men's lacrosse. This course focuses on rules, etiquette, safety, and lacrosse skills, such as catching, passing, cradling, shooting, and defending. Offensive and defensive positions and basic team strategies are also addressed. No previous lacrosse experience is necessary. Open to men and women. CSU

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**PHYSICS – PHYS**

**PHYS-299 Student Instructional Assistant**

.5-3 units SC

- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Physical Education Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

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**PERSIAN – PERSN**

**PERSN-299 Student Instructional Assistant**

.5-3 units SC

- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Persian Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

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**PHILOSOPHY – PHILO**

**PHILO-299 Student Instructional Assistant**

.5-3 units SC

- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Philosophy Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU
PLUMBING – PLUMB

PLUMB-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Plumbing Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

RUSSIAN – RUSS

RUSS-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Russian Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

POLITICAL SCIENCE – POLSC

POLSC-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Political Science Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

SIGN LANGUAGE – SIGN

SIGN-283 American Sign Language (ASL) IV
3 units SC
• 54 hours lecture per term
• Prerequisite: SIGN 282 or equivalent

Using ASL I, II, and III as a base, this course expands vocabulary and grammatical skills, both receptive and expressive. It will further develop conversational skills in functional settings, and lead to an appreciation of the deaf culture and history. CSU

SOCIAL SCIENCE – SOCSC

SOCSC-299 Student Instructional Assistant
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Social Science Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

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SPANISH – SPAN

SPAN-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Spanish Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

SPEECH – SPCH

SPCH-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Speech Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU

STEAMFITTING – STMFT

STMFT-112  Use and Care of Tools
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only.
- Formerly STMFT 250

The identification of tools encountered in the industrial environment. The proper use of trade-related tools. CSU

STMFT-113  Welding Safety/Plate Welding
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only.
- Formerly STMFT 251

The introductory course in welding safety and theory. Beginning plate arc welding will be addressed. CSU

STMFT-114  Oxygen/Acetylene Cutting
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only.
- Formerly STMFT 252

Oxygen and acetylene cutting and safety. Cutting for various plate thicknesses and layouts. CSU

STMFT-115  Pipe Shop I
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only.
- Formerly STMFT 253

The use of various pipe and fitting materials and their application. Using pipes and pipe fitting materials to build piping projects based on isometric drawings. CSU

STMFT-129  Union Heritage
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

This program is designed to review the heritage and traditions of the United Association of Steamfitters and Welders. Students will learn about past and current events with presentations and classroom interactions. CSU

STMFT-138  Orbital Welding
1.5-2.5 units  LR
- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.

The training and certification for the Automatic Orbital Welding machine. CSU

STMFT-299  Student Instructional Assistant
.5-3 units  SC
- May be repeated three times
- Variable hours
- Note: Applications must be approved through the Instruction Office. Students must be supervised by a DVC instructor.

Students work as instructional assistants, lab assistants and research assistants in the Steamfitting Department. The instructional assistants function as group discussion leaders, meet and assist students with problems and projects outside of class and help the instructor with reading and evaluation of class assignments. Students may not assist in course sections in which they are currently enrolled. CSU
### COURSES DELETED

- ARTDM-100
- ARTDM-120
- ARTDM-131
- BIOSC-216
- BIOSC-217
- BIOSC-218
- BIOSC-239
- BUS-296
- CNT-134
- COMSC-102
- COMSC-152
- COMSC-245
- COMSC-267
- CULN-155
- CULN-211
- CULN-214
- ECE-127
- ELTRN-140
- ENGIN-239 – now ENGIN-257
- ENGIN-141
- ENGL-105 – now ENGL-095
- ENGL-110 – now ENGL-099
- GERON-100
- GERON-150
- HIST-240
- HORT-125
- HORT-154
- HORT-156
- HORT-158
- HUMAN-120
- INTEC-120
- ITAL-145
- ITAL-146
- ITAL-147
- LATIN-120
- LATIN-121
- LRNSK-053
- LRNSK-054
- LRNSK-057
- LRNSK-058
- LRNSK-060
- LRNSK-151
- LRNSK-153
- MATeC-150
- MATeC-220
- MATeC-298
- MATH-125
- MATH-130
- MUSLT-110 – now MUSIC-110
- MUSLT-113
- MUSLT-115 – now MUSIC-115
- MUSLT-116 – now MUSIC-116
- MUSLPF-134 – now MUSIC-134
- MUSLPF-137 – now MUSIC-137
- MUSLPF-166 – now MUSIC-166
- NUTRI-112
- PSYCH-210 – now PSYCH-101
- SIGN-266
- SIGN-267
- SIGN-268
- SOCIO-140
- SOCSC-125
- SOCSC-160A
- STMFT-250 – now STMFT-112
- STMFT-251 – now STMFT-113
- STMFT-252 – now STMFT-114
- STMFT-253 – now STMFT-115
- STMFT-260 – now STMFT-125
- STMFT-261 – now STMFT-131
- STMFT-262 – now STMFT-132
- STMFT-263 – now STMFT-133
- STMFT-264 – now STMFT-134
- STMFT-265 – now STMFT-135
- STMFT-266 – now STMFT-136
- STMFT-267 – now STMFT-137
- STMFT-270 – now STMFT-116
- STMFT-271 – now STMFT-126
- STMFT-272 – now STMFT-140
- STMFT-273 – now STMFT-120
- STMFT-274 – now STMFT-121
- STMFT-275 – now STMFT-122
- STMFT-276 – now STMFT-123
- STMFT-277 – now STMFT-124
- STMFT-278 – now STMFT-127
- STMFT-279 – now STMFT-128

### COURSES - ELIGIBLE FOR CREDIT BY EXAMINATION

- ARCHI 119
- ENGIN 119
COURSES CHANGED

Note:
Changes are underlined.

ADMINISTRATION OF JUSTICE – ADJUS

ADJUS-203 Physical Evidence and The Crime Laboratory
4 units LR
• 54 hours lecture/54 hours laboratory per term
• Recommended: Eligibility for ENGL 122 or equivalent

This course is an in-depth analysis and discussion of the nature and significance of various types of physical evidence commonly found at crime scenes. Areas of emphasis include: (1) the use of physical evidence in the forensic setting, (2) types of physical evidence, (3) the identification, collection and packaging of physical evidence, (4) principles of crime scene photography, (5) crime scene sketching, (6) evidence collection techniques: casting shoe and tool marks, lifting latent fingerprints and (7) the preservation of trace evidence, i.e. physiological fluids, hair, soil, fibers, glass, etc. This course combines the theoretical concepts associated with use of physical evidence in the forensic setting with student involvement in the processing of simulated crime scenes. The lab component, which will focus on the student applying the principles learned in lectures, will be mandatory. CSU

ADJUS-221 Criminal Evidence
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

This course covers the origin, development, philosophy and constitutional basis of evidence; procedural considerations affecting arrest, search and seizure, kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights and case studies. CSU

ADJUS-222 Criminal Investigation
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

Fundamentals of investigation; crime scene search and recording; collection and preservation of physical evidence; scientific aids; modus operandi; sources of information; interviews and interrogation; follow-up and case preparation. CSU

ADJUS-280 Probation and Parole
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

An introduction to probation and parole, its philosophy, history, legal mandates, relations to courts, basic procedures and common treatment approaches. A study of legal codes affecting probation and parole; evaluation of the prison system and inmate community; parole supervision and examination of the success of a contemporary prison and parole system. Specific emphasis will be on California’s probation, institutions and parole system. CSU

ARCHITECTURE – ARCHI

ARCHI-132 Architectural Graphics III
4 units SC
• 36 hours lecture/108 hours laboratory per term
• Prerequisite: ARCHI 131 or equivalent

Advanced exploration of drawing and rendering techniques utilizing freehand drawing, mechanical drawing and contemporary methods of representation. Emphasis on perspective drawing, shade and tone, color in architectural renderings, and advanced representation of materials, textures and landscape elements. Course covers advanced topics in the use of mixed-media, presentation formats, layout and composition in relation to architectural rendering. CSU

ARCHI-150 Topics in Architecture
3-4 units SC
• May be repeated three times
• Variable hours

A supplemental course in architecture to provide a study of current concepts and problems in architecture. Specific topics to be announced in the schedule of classes. CSU

ARCHI-155 History of Architecture: Europe and the World
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

A comprehensive architectural history course emphasizing the development of architectural movements from ancient civilizations to the present. Course discusses architectural building types in relation to their geographic and cultural context. Topics covered include architecture of early settlements and civilizations, megalithic monuments, and Egyptian, Greek and Roman architecture, as well as a history of architecture during the Middle Ages, including Byzantine, Romanesque and Gothic movements in design. Course concludes with architectural developments during the Renaissance and later design developments in relation to technology, industrialization and the social and cultural context of the Twentieth century, including architecture of the Modernist Movement and Deconstructivism. CSU, UC (credit limits may apply to UC-see counselor)

ARCHI-160 History of American Architecture
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

A survey of American architectural history from Native American dwellings to the present, utilizing lectures, slides, and field trips. Course covers the architectural influence of immigrant groups from multiple cultural and ethnic backgrounds as well as the influences of architectural design movements through the course of history. Topics covered include Native American dwellings, early Colonial houses and structures, the Georgian and Federal Styles, the planning of Washington DC, Greek, Gothic and other European Revival movements in the United States, as well as the development of the high rise in major metropolitan areas such as Chicago and New York.

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York. Material related to the lives and work of noted architects such as Louis Sullivan, Frank Lloyd Wright, Julia Morgan and Bernard Maybeck are presented in relation to their social, political and economic contexts. CSU, UC (credit limits may apply to UC-see counselor)

ARCHI-222 Architectural Practice and Working Drawings I
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: ARCHI 130 or equivalent

Course covers the methods and processes for the interpretation and creation of architectural working drawings and specifications. Topics covered include schematic design, design development, assembly and graphic representation of building elements and the creation of architectural drawings and construction documents. Site plans, foundations, framing systems, bearing walls, structural frames, electrical and mechanical systems in addition to details and cladding systems for floors, walls and roofs are included in course curriculum. Discussion of the CSI format and use of reference material such as local planning ordinances, building codes, architectural graphic standards, and information published by building product manufacturers are included in course curriculum. Students are introduced to the design review process, standards of practice and graphic representation, and the role of the architect, client and local governing agencies. CSU

ARCHI-223 Architectural Practice & Working Drawings II
3 units SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: ARCHI 222 or equivalent

Preparation and interpretation of architectural working drawings and specifications, with emphasis on heavy timber, concrete, masonry, and steel construction. Use of reference material such as local planning ordinances, building codes, architectural graphic standards, and information published by building product manufacturers. CSU

ARCHI-298 Independent Study
.5-3 units SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and instruction office; topics must extend beyond courses offered.

An opportunity for advanced students to study special interests under the direction of faculty. CSU

ART – ART

ART-105A Introduction to Drawing
1.5 units SC
• May be repeated once
• 18 hours lecture/36 hours laboratory per term
• Recommended: Eligibility for ENGL 116/118 or equivalent
• Note: ART 105A is equivalent to the first half of ART 105. ART 105A and 105B may be taken in reverse order.
• Formerly ART 100

Presentation of the fundamentals of drawing and composition and the basic application thereof. CSU, UC

ART-105B Introduction to Color
1.5 units SC
• May be repeated once
• 18 hours lecture/36 hours laboratory per term
• Recommended: Eligibility for ENGL 116/118 or equivalent
• Note: ART 105B is equivalent to the second half of ART 105. ART 105A and 105B may be taken in reverse order.
• Formerly ART 101

Presentation of the fundamentals of color theory, color function, and color application. CSU, UC

ART-106 Drawing and Composition
3 units SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 105A or equivalent; eligibility for ENGL 116/118 or equivalent

An exploration of drawing concepts, descriptive drawing, and logical form rendering with an emphasis on stylistic development. Students will explore additional color media such as pastel and prismacolor pencils. CSU, UC

ART-106A Drawing and Composition: Controlled
1.5 units SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 106A or equivalent; eligibility for ENGL 116/118 or equivalent

Note: ART 106A is the first half of ART 106.

Techniques of drawing including descriptive drawing and creative composition through the employment of traditional drawing media with an emphasis on graphite, charcoal, and conte. CSU, UC

ART-106B Drawing and Composition: Expressive
1.5 units SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 105A or equivalent; eligibility for ENGL 116/118 or equivalent
• Note: ART 106B is the second half of ART 106.

Techniques of drawing, descriptive drawing, and creative composition through the employment of traditional drawing media. May explore additional color media, such as pastel and prismacolor pencils. CSU, UC

ART-108 Figure Drawing II
3 units SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 105 or equivalent; Eligibility for ENGL 116/118 or equivalent

Drawing from the human figure. Emphasis on mixed media: pastels, gouache, and watercolor. CSU, UC

ART-110 Introduction to Printmaking
3 units SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 105 or equivalent

An introduction to various printmaking techniques: Monotype, Collagraph, Dry Point, Linoleum Cut. CSU, UC
ART-111  Printmaking: Etching
3 units  SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 105 or equivalent
The study of intaglio printmaking: line etching, aquatint, deep-bite, multiple color plates, and chine colle. Projects and discussions develop students’ understanding of how images can communicate our experience and imagination, CSU, UC

ART-125  Color Theory and its Application to 2-D Media
3 units  SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 105 or equivalent and ART 126 or equivalent; eligibility for ENGL 116/118 or equivalent
The study, practice, and analysis of color theory as it affects formal and conceptual elements in 2-D media. A variety of painting mediums will be used, as well as electronic media, CSU, UC

ART-126B  Introduction to Oil/Acrylic Painting B
1.5 units  SC
• May be repeated once
• 18 hours lecture/36 hours laboratory per term
• Recommended: ART 105 or equivalent, ART 126A or equivalent; eligibility for ENGL 116/118 or equivalent
• Note: ART 126B is equivalent to the second half of ART 126.
This course deals with painting as a means of communication and the practical study of established styles and techniques. Emphasis will be upon traditional materials and techniques including direct and indirect methods. CSU, UC

ART-128  Symbols and Visions
3 units  SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 105 or equivalent, ART 126 or equivalent, and ART 127 or equivalent; eligibility for ENGL 116/118 or equivalent
• Note: ART 126B is equivalent to the second half of ART 126.
A course designed to develop the artist’s imagination. Presentations of ideas and themes of historic and contemporary painting concerns will be made, with emphasis on the conceptualization of imagery. CSU, UC

ART-135  Art Gallery/Museum Management
3 units  SC
• 36 hours lecture/72 hours laboratory per term
• Recommended: Eligibility for ENGL 116/118 or equivalent
A study of the skills, theories, and practices necessary to prepare works of art for public display and their practical application in the DVC Art Gallery. Matting, framing, exhibition design, conservation, advertising, and legal issues will be addressed. Students will develop professional skills needed to interact within art and related business environments. Off-campus professional internships may be possible upon completing this class. CSU

ART-140  Introduction to Sculpture and 3-D Design
3 units  SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: Eligibility for ENGL 116/118 or equivalent
A hands-on introduction to the basic elements of three-dimensional design and sculpture. Students comprehend form, volume, and spatial relationships through hands on projects in a variety of media. Students also survey the history of 20th century sculpture as a basis for exploring and understanding three-dimensional design fundamentals. CSU, UC

ART-141  Sculpture I
3 units  SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 140 or equivalent
As a continuation of Art 140, this course consists of hands on projects that guide students through processes and principles of three dimensional design. Students develop a conceptual dialogue with the instructor, and create a portfolio of sculptural work. CSU, UC

ART-142  Metal Art I
3 units  SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 140 or equivalent
This course is a comprehensive introduction to various metal sculpture processes. This course applies mold-making techniques for casting bronze, aluminum, and iron objects, as well as basic welded sculpture. Emphasis will be on 3-D design quality and process. CSU

ART-143  Metal Art II
3 units  SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 140 or equivalent and ART 142 or equivalent
A continuation of various aspects of metal arts. Advanced techniques in metal casting of bronze, aluminum, and iron are explored, as well as the fabrication of steel sculpture using the forge and welding. Emphasis will be on advanced design and technique with research in the history of traditional and contemporary metal sculpture. CSU

ART-144  Metal Casting Techniques I
3 units  SC
• May be repeated once
• 36 hours lecture/72 hours laboratory per term
• Recommended: ART 140 or equivalent
This course introduces various aspects of metal sculpture using casting techniques. Moldmaking techniques for castings in bronze, aluminum, and iron are introduced. An in-depth study of traditional and contemporary metal sculpture processes with an emphasis on 3-D design quality are established. CSU
ART-145  Metal Casting Techniques II  
3 units SC  
- May be repeated once
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART 140 or equivalent and ART 144 or equivalent

This course expands on foundry casting skills with emphasis on more complex casting problems. The process for aluminum, bronze, and iron will be thoroughly explored. Advanced mold-making techniques in resin-bonded sand molds, green sand, and burnout investment molds, and shell molds are covered. Emphasis added to sustainable studio practice and design concerns. CSU

ART-146  Metalsmithing and Jewelry I  
3 units SC  
- May be repeated once
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART 140 or equivalent

This is a beginning course providing skills in basic jewelry and metalsmithing design and hands-on processes. The studio course work includes the techniques of soldering, cutting, stone setting, bezel work, rolling, chain making, metal forming, and metal finishing. The course further provides a foundation in traditional and contemporary jewelry design and aesthetic forms. CSU

ART-150  Topics in Studio Art  
3-4 units SC  
- May be repeated three times
- Variable hours  
- Recommended: Eligibility for ENGL 116/118 or equivalent

This is a supplemental course in Studio Art Topics to provide a study of current concepts and problems in studio art. Specific topics will be announced in the schedule of classes, CSU

ART-153  Wheel-Thrown Ceramic Art II  
3 units SC  
- May be repeated once
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART 152 or equivalent; eligibility for ENGL 116/118 or equivalent

Through the examination of historical and contemporary ceramic genres and the development of advanced technical skills, students will construct complex, wheel-thrown forms. The fundamentals of three-dimensional design will be used to develop a personal aesthetic, and also to guide critique of finished forms. CSU, UC

ART-154  Hand-Built Ceramic Art  
3 units SC  
- May be repeated two times
- 36 hours lecture/72 hours laboratory per term  
- Recommended: Eligibility for ENGL 116/118 or equivalent

Students will analyze both contemporary and historical art, and reference different aesthetics to construct original hand-built ceramic work. In addition, they will utilize the fundamentals and aesthetics of three-dimensional design to plan, construct, and discuss original work made in class. CSU, UC

ART-156  Figurative Ceramic Art  
3 units SC  
- May be repeated two times
- 36 hours lecture/72 hours laboratory per term  
- Recommended: Eligibility for ENGL 116/118 or equivalent

Students will analyze both contemporary and historical art, and reference different aesthetics to construct original figurative ceramic work. In addition, they will utilize the fundamentals and aesthetics of three-dimensional design to plan, construct, and discuss original work made in class. CSU, UC

ART-161  Black and White Photography II  
3 units SC  
- May be repeated once
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART 160 or equivalent  
- Note: Students supply their own working roll-film camera, with manual exposure controls and a lightmeter (either hand held or built into the camera).

Students who have completed this course will demonstrate an intermediate-level knowledge of the materials and techniques used in black and white photography. The course will concentrate on the specific controls of the exposure process, the multiple characteristics of a variety of films and papers, and how to combine the results of different decisions in photography to best realize students' artistic visions. CSU, UC

ART-162  Black and White Photography III  
3 units SC  
- 36 hours lecture/72 hours laboratory per term  
- Recommended: ART 161 or equivalent  
- Note: Students supply their own working roll-film camera, with manual exposure controls and a lightmeter (either hand held or on camera).

Students who have completed this course will demonstrate an advanced level of the materials and techniques of black and white photography. Advanced portfolio development and photographic practices will be emphasized. Discussion and critique will be informed by the history of photography and an examination of contemporary art practices. CSU

ART-250  Projects in Art  
3-4 units SC  
- May be repeated three times
- Variable hours

A supplemental course in Art to provide a study of current concepts and problems in art. Specific topics will be announced in the schedule of classes, CSU

ART-265  Advanced Photography Workshop  
3 units SC  
- May be repeated three times
- 18 hours lecture/90 hours laboratory per term  
- Recommended: ART 160 or equivalent  
- Note: Exploration of digital and darkroom practices encouraged.

This course is designed to refine the aesthetic vision and visual literacy of the experienced photographer by offering a structured environment to cultivate an individual's point of view. Students will define and develop an individual project based on their aesthetic concerns. CSU
ART-298 Independent Study
3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and instruction office; topics must extend study beyond courses offered.

An opportunity for advanced students to study special interests under the direction of the faculty. CSU

ART DIGITAL MEDIA – ARTDM

ARTDM-117 Digital Illustration
3 units SC
- May be repeated once
- 36 hours lecture/54 hours laboratory per term
- Recommended: ARTDM 111 or equivalent.
- Note: Course may be repeated only when software is revised.

This course introduces students to digital illustration. Students will engage in the production of vector graphics suitable for printing and the web. Emphasis will be given to fundamentals of design and composition. Instruction will utilize a variety of software programs including Adobe Illustrator. CSU

ARTDM-165 Cartoon Drawing for Digital Animation
3 units SC
- May be repeated once
- 36 hours lecture/36 hours laboratory/18 hours laboratory by arrangement per term
- Recommended: ART 105 or equivalent
- Note: Course may be repeated only when software is revised.

This course will introduce students to the skills necessary to create character animations, script development and story board animations. Students will survey the history of animation and be exposed to the techniques of animated drawing. It is designed to prepare students to develop a particular style of animation in any of a wide variety of other Digital Media courses. This course is designed as a good companion to and/or preparation for ARTDM 170 and/or ARTDM 160. CSU

ART HISTORY – ARTHS

ARTH-190 Topics in Art History
3-4 units SC
- May be repeated three times
- Variable hours
- Recommended: Eligibility for ENGL 116/118 or equivalent

A supplemental course in Art History to provide a study of current concepts and problems in art history. Specific topics will be announced in the schedule of classes. CSU

ARTH-193 History of Asian Art
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 116/118 or equivalent

An introduction to major art forms and traditions in Asia from prehistory to the present. Artists, patrons, cultures, religions, and their intersections will be covered. Comparisons will be drawn between the course material and other artistic traditions, especially Western societies. CSU, UC

ARTH-195 History of Prehistoric and Ancient Art
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 116/118 or equivalent

A history of Western art from the Paleolithic through the end of the Roman period and the beginning of early Christian art. Archeological and anthropological problems are discussed in relation to the study of art styles. The social and cultural background of ancient civilizations and role of the artist will be considered. CSU, UC

ARTH-196 History of Medieval and Renaissance Art
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 116/118 or equivalent

A history of Western art from the Early Christian Period through the Renaissance. Stylistic changes are related to significant social and cultural changes. Consideration is given to the changing role of the artist, socially, culturally, and within patronage systems. CSU, UC

ARTH-199 Contemporary Art History
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

A survey of contemporary art in the United States and Europe from 1945 to the present. Recent global tendencies in art will also be considered. Emphasis is placed on identifying and understanding important contemporary art movements and images, as well as social and political issues that shape the character of art produced during this time. CSU, UC

BROADCAST COMMUNICATION ARTS – BCA

BCA-150 Music Video Production
3 units SC
- 54 hours lecture per term
- Recommended: BCA 165 or equivalent; eligibility for ENGL 122 or equivalent

In this course, students will learn to produce music videos. Students will start with an audio master then, utilizing single or multi-camera production methodologies, produce a music video. Concept, design and implementation will be significant elements of the course content. CSU

BCA-180 Television and Film Lighting
3 units SC
- May be repeated once
- 36 hours lecture/54 hours laboratory per term

An introduction to television and film lighting for studio and location productions. Students will learn to use a wide variety of lighting instruments and how to light typical situations, to solve common lighting problems, to use light meters, and to make aesthetic choices part of the storytelling process. CSU
Includes an introduction to the use of a computerized accounting system for interest, discounts, sales, and payroll taxes. Also includes the handling of various functional areas of business, including economics, marketing, finance, management, human resources, international operations, and business decision making using information technology. CSU, UC

**BUSINESS – BUS**

**BUS-096NC Basic Money Management**

0 unit
- Non degree applicable
- 18 hours lecture per term
- Note: This is a non-credit open entry/open exit course

A basic class to introduce students to financial literacy topics, such as budgeting, credit, debt management, credit reports, and identity theft. This class is also designed to assist students with understanding education financing, from grants and scholarships to student loans.

**BUS-105 Business Etiquette**

1 unit SC
- 18 hours lecture per term
- Recommended: ENGL 118 or equivalent

A study of the principles of etiquette for the business professional. Students will engage in activities which will cover introductions, shaking hands, exchanging business cards, listening, conversational techniques, diplomacy, manners, proximity, telephone manners, office equipment and technology etiquette, professional appearance, grooming, gift giving, entertainment, handling social events, business travel, meeting protocol, dining, tipping, showing appreciation, netiquette, and intercultural business etiquette. CSU

**BUS-109 Introduction to Business**

3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

This survey course provides an introduction to the study of the modern business enterprise. Students will examine the role of business in a market economy, survey current business trends, and evaluate the global, financial, and social environment in which businesses exist and operate. Moreover, the course will describe the evolution, formation and management of American and international businesses, and provide a basic understanding of various functional areas of business, including economics, marketing, finance, management, human resources, international operations, and business decision making using information technology. CSU

**BUSINESS ACCOUNTING – BUSAC**

**BUSAC-188 QuickBooks Accounting for Business II**

- May be repeated once
- 18 hours lecture/9 hours laboratory/18 hours laboratory by arrangement per term
- Recommended: BUSAC 185 or equivalent; eligibility for ENGL 122 or equivalent
- Note: Course may be repeated when software program changes.

A second level course in computer accounting for business using a recognized software program. Focus will be on developing skills for creating a set of records and applications for a merchandising business including sales and receivables, payables and purchases, and end of period procedures. Topics will also include payroll and payroll tax reporting and related preparation of employee earnings reports. CSU

**BUSIM-075 Topics in Business Information Management**

3-4 units SC
- May be repeated three times
- Non degree applicable
- Variable hours
- Recommended: previous Windows experience

A supplemental course in Business Information Management to provide a study of current concepts and problems in information management. Specific topics will be announced in the schedule of classes.

**BUSIM-145 Business Spreadsheet Applications**

2 units SC
- May be repeated once
- 27 hours lecture/27 hours laboratory by arrangement per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: See schedule of classes for software used

A business applications course, which uses a foundation of basic spreadsheet skills to emphasize the solving of business problems using a commercial spreadsheet program such as Excel. Business oriented cases and problems will be used to present and reinforce procedures for planning, designing, creating, and preparing worksheets. Preparation of business reports, incorporating graphs and database features, and time saving techniques will also be presented. Development of business problem-solving skills is emphasized. Recommended for employment preparation and upgrading of business skills.

**BUSIM-211 Office Procedures and Technology**

3 units SC
- 54 hours lecture/18 hours laboratory by arrangement per term
- Recommended: BUS 101 or equivalent and BUSIM 111 or equivalent; eligibility for ENGL 122 or equivalent

A comprehensive course covering the essentials that office professionals must know to succeed in a professional office environment. Students will study all aspects of administrative office work and complete projects that simulate common office situations using various software packages, office equipment, and the Internet. Students will learn how to communicate effectively, process financial information, greet customers, handle multiple phone lines, operate standard office equipment, manage

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files, process mail, make travel arrangements, plan meetings, and use the Internet for business research and communication. Special emphasis will be placed on professionalism, ethics, communication, and career management. CSU

**BUSINESS MANAGEMENT – BUSMG**

**BUSMG-120 Introduction to Management Studies**
3 units SC
- 54 hours lecture per term
- Recommended: BUS 109 or equivalent; Eligibility for ENGL 122 or equivalent

This course is designed as an introduction to the skills and applications used in modern management practice. Topics may include foundation of management principles, planning, organizing, staffing, directing, controlling, legal, ethical, and social responsibilities of management. CSU

**BUSMG-132 Human Resource Management**
3 units SC
- 54 hours lecture per term
- Recommended: BUS 109 or equivalent; Eligibility for ENGL 122 or equivalent

A comprehensive study of human resource management in organizations, including human resource planning; employment legislation; recruitment and selection; training and development; compensation and benefits; performance appraisal and career management; managing labor relations; safety, health, and well-being; and motivation and enhancing performance. The course will explore topics including values, ethical issues, leadership and communication, conflict, work design, and organizational culture. CSU

**COMPUTER NETWORK TECHNOLOGY – CNT**

**CNT-131 Database Administration**
3 units LR
- May be repeated once
- 54 hours lecture/54 hours laboratory per term
- Recommended: COMSC 105 or equivalent
- Note: Refer to course schedule for specific Oracle and SQL Server versions.

This course is designed to give the database administrator (DBA) a firm foundation in basic administrative tasks and provide the necessary knowledge and skills to set up, maintain, and troubleshoot a database. Both Oracle and SQL Server are covered. CSU

**CNT-135 SQL Programming**
4 units LR
- May be repeated once
- 54 hours lecture/54 hours laboratory per term
- Recommended: COMSC 110 or ENGIN 135 or equivalent
- Note: Refer to course schedule for specific Oracle and SQL Server versions.

This course covers the creation and maintenance of databases and tables. It also covers storage, retrieval and manipulation of data. Both Oracle and Microsoft SQL Server are covered, including SQL script that is common to both, and product-specific variations. CSU

**CNT-138 Implementing and Managing Microsoft Exchange Server**
3 units LR
- May be repeated once
- 45 hours lecture/27 hours laboratory per term
- Note: Refer to course schedule for specific Exchange Server version.

This course provides students with in-depth product information on the following topics: planning deployment and installing Exchange Server; architecture of Exchange Server; supporting Exchange Server in a single site or multisite enterprise environment; establishing messaging connectivity over the Internet, and supporting Web access to Exchange Server computers through Microsoft Outlook Web Access. CSU

**COMPUTER SCIENCE – COMSC**

**COMSC-142 XML (eXtensible Markup Language)**
2 units SC
- 27 hours lecture/27 hours laboratory per term
- Recommended: COMSC 095 or equivalent

This course introduces eXtensible Markup Language (XML) Documents. Students will learn the difference between HTML and XML and learn how to use XSL transformations. CSU
COMSC-257 Enterprise Java Programming
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Recommended: COMSC 255 or equivalent

The course covers the server side programming in Java including features of the Enterprise Edition (Java EE). Topics include Enterprise Java Beans (EJBs), application servers, Remote Method Invocation, Servlets, Naming and Directory Services, Message and Web Services, Peer-To-Peer Services, and other facilities provided in Java EE. CSU

COMSC-266 Object Oriented Programming C++
4 units SC
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: COMSC 255 or COMSC 265 or equivalent

This course provides detailed coverage of the concepts and syntax of the C++ Language. Coverage includes inheritance, overloaded operators, overloaded default operators, virtual functions, memory management, files, streams, templates, and exceptions. CSU, UC

CONSTRUCTION – CONST

CONST-114 Blueprint Reading
3 units SC
• 54 hours lecture per term
Blueprint reading for the building industry. CSU

CONST-116 Plane Surveying
3 units SC
• 54 hours lecture/54 hours laboratory per term
• Prerequisite: MATH 121 or equivalent
• Note: Same as ENGIN 140

Principles and practices of surveying including measurement of distances, directions and elevations; measuring standards; introduction to electronic measurements and metric units; calibration, systematic and random error analysis; traverse calculations; use and care of surveying instruments including tapes, transits and levels; GPS measurements; map reading; horizontal and vertical curves and mapping. CSU

CONST-124 Construction Details and Specifications
3 units SC
• 54 hours lecture per term

Advanced study of construction detailing and specifications for building systems from foundations to roofs, including windows and doors, thermal and moisture protection, stairs and elevators and metal fabrications for wood frame, reinforced concrete, structural steel, and heavy timber buildings. Interpretation and sketching of details as well as an introduction to the general conditions for the construction contract. Techniques required to produce construction drawings and specifications conforming to current building codes and standards, including using manual drawing techniques and computer aided drafting. CSU

CONST-136 Construction Processes (Commercial)
4 units SC
• 54 hours lecture/54 hours laboratory per term

A study of the processes of heavy construction including covering plans, construction sites, layout, substructures and superstructures made of concrete, steel, masonry and wood. CSU

CONST-150 Topics in Construction
.3-4 units SC
• May be repeated three times
• Variable hours

A supplemental course in construction designed to provide a study of current concepts and problems in construction. Specific topics to be announced in the schedule of classes. CSU

CONST-170 Fundamentals of Building Inspection
3 units SC
• 54 hours lecture per term

A study of basic construction inspection procedures, and the inspector's legal responsibility. Covered topics include inspecting structures, occupancy types, safety, and proper record keeping. CSU

CONST-182 Building Code Interpretation: Structural
3 units SC
• May be repeated once
• 54 hours lecture per term

Acquaints the student with legal requirements associated with building inspection. Development of checklists and knowledge of a structural plan check review. CSU

CONST-183 Title 24: Energy Conservation Codes
3 units SC
• May be repeated once
• 54 hours lecture per term

This course is an overview of Title 24 energy conservation, and energy compliance codes. Focus of the course is on building plan inspection and construction field inspection. Course includes energy projects, streamlining energy compliance forms review, case studies and reviewing plan checking and building inspection procedures. CSU

CONST-192 Mechanical Code Interpretation
3 units SC
• 54 hours lecture per term

Acquaints the students with legal requirements associated with building inspection. Interpretation, understanding and application of codes and standards as they apply to construction of mechanical systems. CSU

CONST-245 Estimating – Commercial
3 units SC
• 54 hours lecture per term
• Recommended: CONST 114 or equivalent and CONST 136 or equivalent

A course in estimating quantities of materials and costs of materials, labor, and miscellaneous items for commercial buildings. CSU

CONST-276 Legal Aspects of the Construction Industry
3 units SC
• 54 hours lecture per term

A summary of the legal implications of the duties and responsibilities of a construction supervisor, superintendent, or contractor. Attention will be given to contracts and their interpretations. Emphasis on the practical aspects of legal theories, codes, and cases applied to the construction industry. CSU
COUNSELING – COUNS

COUNS-130 Transfer Transitions
1.5 units SC
• 27 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

Through this course students research, evaluate and develop a transfer plan that is well organized and specific to the individual's life circumstance and educational goals. Students explore the world of transfer from academic, financial, and personal development perspectives. A key component of this course is learning research skills and strategies using a variety of techniques to find, retrieve and evaluate transfer planning information. CSU

COUNS-150 Topics in Counseling
.3-4 units SC
• May be repeated three times
• Variable hours

A supplemental course designed to provide personal and social development skills related to academic issues. Specific topics will be announced in the schedule of classes. CSU

DENTAL HYGIENE – DENHY

DENHY-295 RDH Examination Preparation
.5 unit P/NP
• May be repeated three times
• 27 hours laboratory per term
• Prerequisite: DENHY 231 or equivalent
• Formerly DENHY 099

Advanced clinical dental hygiene experience with emphasis on preparation for the RDH Examination: including patient selection, preparation, self/peer evaluation to enhance performance on the State of California license examination.

DRAMA – DRAMA

DRAMA-122 Basic Principles of Acting
3 units SC
• 54 hours lecture per term

This course focuses on acting fundamentals with an emphasis on the heightening and focusing of physical and vocal energy, and the beginning elements of scene study. Students will learn how to assess and rechannel their physical hypertension, and apply scene study techniques on stage. CSU, UC

DRAMA-123 Intermediate Principles of Acting
3 units SC
• 54 hours lecture per term
• Recommended: DRAMA 122 or equivalent

This course continues to develop the heightened physical and vocal energies needed for stage, and introduces more complex elements in scene study. Students continue their work in addressing instrumental hypertension, and learn specific ways to apply the use of the imagination to the preparation and performance of a scene on stage. CSU, UC

DRAMA-140 History of the Theater: Pre-Greek to 17th Century
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

This course is an historical survey of dramatic art from the period of pre-Greek civilization to the Elizabethan Renaissance. Students will examine the various influences that led to the development and evolution of theater in various cultures and time periods. CSU, UC

DRAMA-141 History of the Theater: 17th Century to Present
3 units SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent

This course is an historical survey of dramatic art from the period of the Elizabethan Renaissance to the present. Students will examine the various influences that led to the development and evolution of theater in various cultures and time periods. CSU, UC

DRAMA-150 Children's Theater
3 units SC
• May be repeated three times
• 54 hours lecture per term

This is a course in the theory and principles of children's theater. It features the creation of a production using an adult cast, with emphasis upon performance for a young audience. The production will tour local schools. Each term new literature and productions are focused upon. CSU

EARLY CHILDHOOD EDUCATION – ECE

ECE-125 Introduction to Early Childhood Education
3 units SC
• 54 hours lecture per term
• Co-requisite: ECE 124 or equivalent (may be taken previously)
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development.

Specific training in observing, recording and evaluating the behavior of the young child. Includes history and philosophy of early childhood education. Orientation to careers working with children. Introduction to curriculum components with discussion on selecting and evaluating learning materials. Attention is given to the preparation of the basic curriculum areas of the child care programs in the indoor and outdoor environment. CSU
ECE-126  Health, Safety, and Nutrition for the Young Child
3 units  SC
• 54 hours lecture per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Meets the State Department of Social Services licensing requirement for DSS III, Health and Safety.
This course is designed to provide knowledge of health, safety, and nutrition issues to child care providers in child care settings. Health concerns which affect young children and their care environments as well as sanitation, disease control, and basic first aid are covered. Knowledge about safety for the individual child and the design of a safe learning environment are emphasized. Planning and organizing nutritious food programs which integrate the food curriculum into the existing program and involve children in food preparation is stressed. CSU

ECE-134  Topics in Family Communication and Interaction
.3-4 units  SC
• May be repeated three times
• Variable hours
• Note: Meets the State Department of Social Services licensing requirement for DSS III Program and Curriculum Development, if taken for 3 units.
A supplemental course in family communication and interaction to examine establishing a home and family, raising children in positive and effective ways and adjusting to parents’ role such as single parents, working parents, step-parents and foster child care parents. Specific topics will be announced in the schedule of classes. CSU

ECE-230  Infant and Toddler Care
3 units  SC
• 54 hours lecture per term
• Prerequisite: ECE 124 or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Meets the State Department of Social Services licensing requirement for DSS IV, Infant Care and Development.
Review of the developmental issues of infants and toddlers. Study of the basic components of developmentally appropriate infant-toddler curriculum including development, care-giving environments, communication skills, and professionalism in the field. CSU

ECE-231  Infant and Toddlers: Issues and Application
3 units  SC
• 54 hours lecture per term
• Prerequisite: ECE 230 or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent
This course is designed to review current infant and toddler child development issues and to discuss current developmental topics that impact infant/toddler care. CSU

ECE-237  Current Topics in Early Childhood Education
.5-3 units  SC
• May be repeated three times
• Variable hours
• Recommended: Eligibility for ENGL 122 or equivalent
This course is a study of the methods and principles of supervising student teachers, assistant teachers, parents and volunteers in early childhood education. Specific topics will be announced in the schedule of classes. CSU

ECE-249  Introduction to Early Childhood Education Theory and Practice
4 units  SC
• 36 hours lecture/108 hours laboratory per term
• Prerequisite: ECE 124 or ECE 125 or equivalent
• Co-requisite: ECE 129 or equivalent (may be taken previously)
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: TB clearance required for students to participate in lab work at DVC Children’s Center or approved mentor site. Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development.
An introductory supervised practicum study of developmentally appropriate early childhood teaching competencies. Students will utilize practical classroom experiences to make connections between theory and practice, develop professional behaviors, and build a comprehensive understanding of children and families. Child centered, play-oriented approaches to teaching, learning, and assessment; and knowledge of curriculum content areas will be emphasized as student teachers design, implement and evaluate experiences that promote positive development and learning for all young children. CSU

ECE-250  Early Childhood Education Theory and Practice
4 units  SC
• 36 hours lecture/108 hours laboratory per term
• Prerequisite: ECE 124 and ECE 125 or equivalents
• Co-requisite: ECE 249 or equivalent (may be taken previously)
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Required TB clearance for students participating in laboratory work. Meets the State Department of Social Services licensing requirement for DSS III, Program and Curriculum Development.
An advanced supervised practicum study of developmentally appropriate practices in an early childhood education laboratory setting. Focus is on reflective teaching and developing in-depth curriculum projects based on ongoing observations of children. Topics include planning and implementing curriculum, creating environments, communication skills, and professionalism in the field. CSU

ECE-253  Adult Supervision in Early Childhood Classrooms
2 units  SC
• 36 hours lecture per term
• Recommended: ECE 124, 125, 130 and 250 or equivalents; eligibility for ENGL 122 or equivalent
This course is a study of the methods and principles of supervising student teachers, assistant teachers, parents and volunteers in early childhood education. Emphasis is on the role of classroom teachers who function as mentors to new teachers while simultaneously addressing the needs of children, parents, and other staff. CSU
ECONOMICS – ECON

ECON-220 Principles of Macroeconomics
3 units SC
- 54 hours lecture per term
- Prerequisite: MATH 120 or MATH 120SP or equivalents
- Recommended: Eligibility for ENGL 122 or equivalent
Students are introduced to fundamental economic principles that recur throughout economics such as scarcity, opportunity cost, marginal decision making and the gains from trade. Macroeconomics focuses on broad economic aggregates such as total output, employment, the price level and the rate of economic growth. The course also examines fiscal and monetary policies and institutions, and finally, applies macroeconomic theories to current economic issues. CSU, UC (credit limits may apply to UC-see counselor)

ECON-221 Principles of Microeconomics
3 units SC
- 54 hours lecture per term
- Prerequisite: MATH 120 or MATH 120SP or equivalents
- Recommended: Eligibility for ENGL 122 or equivalent
Microeconomics focuses on the study of choices made by economic agents, namely, consumers, resource owners, firms, and government, and how these decisions affect the market for a particular good or service. Typical topics include a detailed study of the market mechanism, the elasticity properties of the demand and supply curves, how individuals make decisions about consumption and labor supply, how firms make decisions about how and how much to produce, and why some goods do not lend themselves to private production. The course also examines types of market structure and current economic issues. CSU, UC (credit limits may apply to UC-see counselor)

ECON-298 Independent Study
.5-3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable contract to department and Instruction Office; topics must extend study beyond courses offered.
An opportunity for students to study special interests under the direction of the faculty. CSU

ELECTRICAL/ELECTRONICS TECHNOLOGY – ELECT/ELTRN

ELECT-150 Topics in Electricity
.3-4 units SC
- May be repeated three times
- Variable hours
A supplemental course in electricity to provide a study of current concepts and problems in electricity. Specific topics will be announced in the schedule of classes. CSU

ELTRN-102B Linear Circuits
4 units LR
- 54 hours lecture/54 hours laboratory per term
- Recommended: ELECT 121 or equivalent
A study of operational amplifiers, timers, phase-locked loops, and other active devices. Includes analysis and design of basic circuits such as active filters and analog communication circuits. Also includes related laboratory experience. CSU

ENGINEERING AND ENGINEERING TECHNOLOGY – ENGIN

ENGIN-111 Mathematics for Technicians
4 units LR
- 90 hours lecture/36 hours laboratory per term
- Prerequisite: MATH 110 or equivalent
- Note: The hand-held calculator will be used extensively as an aid to problem solving
A study of algebraic operations, factoring, fractional equations, quadratic equations, systems of equations, and trigonometric functions, especially as they apply to technical areas. Practical application to real job problems. CSU

ENGIN-120 Engineering Drawing
3 units SC
- 36 hours lecture/72 hours laboratory/36 hours laboratory by arrangement per term
- Recommended: MATH 114 or equivalent, ENGIN 119 or equivalent
Introduction to orthographic, oblique and perspective projections. Relationships of points, lines and planes. Auxiliary views, dimensioning, tolerancing, threads and fasteners. Introduction to solid modeling CAD system and use of the computer to produce engineering drawings. Introduction to conceptual design and graphics as a form of communication in the engineering field. CSU, UC

ENGIN-129 Introduction to SolidWorks
4 units SC
- May be repeated once
- 54 hours lecture/54 hours laboratory/36 hours laboratory by arrangement per term
- Note: Can only be repeated when software version changes.
Course will cover 2D and 3D computer aided drafting principles using feature manipulation tools, dimensioning, sections, swept and loft features, as well as assembly drawing. Previous knowledge of SolidWorks software is not required. CSU

ENGIN-136 Computer Programming for Engineers Using MATLAB
4 units LR
- 54 hours lecture/54 hours laboratory/18 hours laboratory by arrangement per term
- Recommended: MATH 193 or equivalent (may be taken concurrently)
Methods of problem solving and data visualization in engineering and science using the MATLAB programming language will be introduced. Topics include numerical integration and differentiation, solution of systems of equations, regression, roots of equations and solution of differential equations. Programming with function, local and global variables, file input and output, data formatting, induction, iteration, recursion and elements of object oriented programming will also be covered. CSU, UC
ENGIN-140 Plane Surveying
3 units SC
- 54 hours lecture/54 hours laboratory per term
- Prerequisite: MATH 121 or equivalent
- Note: Same as CONST 116

Principles and practices of surveying including measurement of distances, directions and elevations; measuring standards; introduction to electronic measurements and metric units; calibration, systematic and random-error analysis; traverse calculations; use and care of surveying instruments including tapes, transits, and levels; GPS measurements; map reading; horizontal and vertical curves and mapping. CSU, UC

ENGIN-150 Topics in Engineering
.3-4 units SC
- May be repeated three times
- Variable hours

A supplemental course in engineering designed to provide a study of the current concepts and problems in engineering. Specific topics to be announced in the schedule of classes. CSU

ENGIN-229 Advanced Concepts in SolidWorks
4 units SC
- May be repeated once
- 54 hours lecture/54 hours laboratory/36 hours laboratory by arrangement per term
- Recommended: ENGIN 119 or equivalent, ENGIN 129 or equivalent
- Note: Can only be repeated when software version changes.

Course is designed for students with previous knowledge and experience in using SolidWorks. Students will continue to learn advanced techniques for capturing design intelligence. Some other aspects of mechanical design, such as assembly management techniques, creating models via surfacing and style features and working with skeletons will be introduced. Troubleshooting and managing existing models by tackling references and interdependencies is a driving consideration in the course. Upon completion of the course, students will exhibit a demonstrated competence in a comprehensive range of SolidWorks skills and techniques. CSU

ENGIN-255 Statics
3 units LR
- 54 hours lecture/18 hours laboratory per term
- Prerequisite: PHYS 130 or equivalent and MATH 193 or equivalent
- Recommended: ENGIN 135 or ENGIN 136 or equivalent and eligibility for ENGL 122 or equivalent

Study of the effects of concentrated and distributed forces on the equilibrium of rigid bodies, structures, beams, flexible cables and fluid statics. Applying the method of sections and free body diagrams to solve truss problems. The study of wedges, screws, bearings, brakes and other problems involving friction. Virtual work and potential energy methods in the determination of equilibrium conditions in machines and structures. CSU, UC

ENGIN-257 Statics and Strength of Materials
3 units LR
- 54 hours lecture/18 hours laboratory per term
- Prerequisite: PHYS 130 or equivalent
- Co-requisite: MATH 294 or equivalent (may be taken previously)
- Recommended: MATH 194 or equivalent

A study of mechanics and strength of materials, including equilibrium of particles and rigid bodies, analysis of truss and frame structures, concepts of stress and strain, linear elastic materials, axially-loaded structural elements, bending and torsion in circular and hollow shafts. Deflection of beams, buckling of columns and energy methods are also discussed. CSU

ENGLISH AS A SECOND LANGUAGE – ESL

ESL-083 ESL: Language Laboratory
2 units P/NP
- Non degree applicable
- 18 hours lecture/54 hours laboratory per term

This laboratory course is designed for ESL or international students who need to practice their reading, writing, listening and speaking skills. The course offers basic instruction on how to use word-processing, basic English language learning software, and the internet. The course offers individualized instruction to students at various skill levels, from intermediate to advanced. The course provides the setting and instructional assistance for students to practice communication skills, and to learn how to do basic computer research.

ESL-091 ESL: Topics in Vocational English Skills
.5-3 units SC
- Non degree applicable
- Variable hours

ESL 91 is designed for advanced English as a Second Language students who may be concurrently enrolled in a course required for a certificate of achievement and accomplishment. This course will teach reading skills, vocabulary-building strategies, writing skills, listening and oral communication skills, and study skills to help students master the content and requirements in a course leading to a certificate of achievement and accomplishment. The focus of this course will change depending on the vocational area that it serves.

ENGLISH – ENGL

ENGL-090 Introduction to College English
2.5 units SC
- Non degree applicable
- 45 hours lecture per term
- Recommended: Eligibility for ENGL 098 or equivalent

This supplemental course is designed to provide instruction in grammar, syntax, usage, punctuation and the writing process at an introductory level. The course will also cover the reading strategies necessary to write well. Weekly writing assignments will enable students to practice using the skills learned in class. This beginning course is intended to prepare students to succeed in basic skills English courses.
ENGL-091 Special Studies in Reading and Writing  
1 unit P/NP  
• May be repeated three times  
• Non degree applicable  
• 9 hours lecture/27 hours laboratory per term  
• Note: Sections for ESL students available  
A series of short-term, one-unit mini-courses which develop specific skills in reading and writing. Courses include reading comprehension, effective reading strategies, spelling/vocabulary, sentence structure, and punctuation.

ENGL-095 Studies in Writing  
.5-6 units SC  
• May be repeated three times  
• Non degree applicable  
• Variable hours  
• Recommended: ENGL 096 and ENGL 098 or equivalent recommendation from the assessment process  
• Formerly ENGL 105  
This course focuses on developing students’ ability to write at the college level. Depending on the topic, the course may cover such diverse areas as: the writing process, developing a sense of voice in writing, critical analysis of student writing, identifying the organizational structures of various essays, and close analysis of fiction and non-fiction.

ENGL-099 English Grammar and Usage  
3 units SC  
• Non degree applicable  
• 54 hours lecture per term  
• Formerly ENGL 110  
This course provides intensive instruction on the rules of grammar, punctuation, spelling and their application in writing. Students will learn to recognize grammatical errors in their writing, to make informed judgments about the style and syntax of the sentences they write, to reduce the number of misspelled words, and to use a broader vocabulary in their writing. The course is intended to prepare students for more advanced English classes and to increase their knowledge of the fundamentals of English.

ENGL-130 Introduction to Technical Writing  
3 units SC  
• 54 hours lecture per term  
• Recommended: ENGL 122 or equivalent  
This course is an introduction to writing in the technical environments of science and industry, with an emphasis on selecting appropriate evidence, and on understanding and employing various levels of technical vocabulary and abstraction. Strategic use of visual support, technical metaphor, and application of communication principles to technical settings are also addressed. CSU

ENGL-168 The Literatures of America  
3 units SC  
• 54 hours lecture per term  
• Recommended: ENGL 122 or equivalent  
This course examines literary works of American authors from underrepresented groups: African American, Asian American, Mexican American, and Native American. We will read selected contributions from novels, plays, short stories, nonfiction and poetry to understand the influences that shape the literatures of America. CSU, UC

ENGL-172 The Bible as Literature  
3 units SC  
• 54 hours lecture per term  
• Recommended: ENGL 122 or equivalent  
Students read the Hebrew Scriptures (Old Testament) and the New Testament as literature, studying the historical, intellectual, and spiritual environments in which the texts were composed. Major themes and characters are given close attention, as is the development of the canon. Literary genres such as poetry, essays, letters, and epics in scripture are compared with those genres found in other world literatures. CSU, UC

ENGL-272 Early World Literature  
3 units SC  
• 54 hours lecture per term  
• Recommended: ENGL 122 or equivalent  
Reading, presentation, and discussion of representative oral and written literature from cultures around the world from ancient times to the sixteenth century in modern English translations. CSU, UC

ENGL-273 Late World Literature  
3 units SC  
• 54 hours lecture per term  
• Recommended: ENGL 122 or equivalent  
Reading, presentation and discussion of representative works of literature from cultures around the world from the seventeenth century to modern times in English translations. CSU, UC

ENGL-298 Independent Study  
.5-3 units SC  
• May be repeated three times  
• Variable hours  
• Note: Submission of acceptable educational contract to department and instruction office; topics must extend study beyond courses offered.  
An opportunity for advanced students to study special interests under the direction of the faculty. CSU

FILM – FILM

FILM-150 Topics in Film  
3-4 units SC  
• May be repeated three times  
• Variable hours  
• Recommended: Eligibility for ENGL 122 or equivalent  
A supplemental course in Film to provide a study of current concepts and problems in film. Specific topics will be announced in the schedule of classes. CSU

FILM-292 Fundamentals of Film Making - Beginning  
3 units SC  
• 54 hours lecture per term  
• Recommended: Eligibility for ENGL 122 or equivalent  
The course teaches the student to execute short, single-camera film styled projects focusing on the skills necessary to produce basic digital/film narrative projects by applying the introductory elements of the class including: script visualization, camera operation, lighting setup, lens selection, digital production, visual concepts and basic digital editing. CSU, UC (credit limits may apply to UC-see counselor)
FILM-293  Fundamentals of Film Making - Intermediate
3 units  SC
• 54 hours lecture per term
• Prerequisite: FILM 292 or equivalent
• Recommended: Eligibility for ENGL 122 or equivalent
This course teaches the student to execute intermediate level single-camera film styled narrative projects by producing projects that utilize mixed soundtracks, sophisticated lighting schemes, sync sound, polished editing and the use of visual metaphors. CSU, UC (credit limits may apply to UC—see counselor).

FRENCH – FRNC

FRNCH-121  Second Term French
5 units  SC
• 90 hours lecture/18 hours laboratory by arrangement per term
• Recommended: FRNCH 120 or equivalent
A second-term basic course at a more advanced level in understanding, speaking, reading, and writing French. Cultural material and information will also be covered. CSU, UC

GEOGRAPHY – GEOG

GEOG-120  Physical Geography
3 units  SC
• 54 hours lecture per term
• Prerequisite: MATH 110 or one year of high school algebra or appropriate placement through the assessment process or equivalent
A general course to introduce the fundamental principles of physical geography. This course is intended to provide an intelligent understanding of the Earth as the home of human beings and to show the interrelationships found within the physical environment. Quantitative reasoning, development of mathematical concepts and problem solving are emphasized. CSU, UC

GEOG-121  Physical Geography Laboratory
1 unit  SC
• 54 hours laboratory per term
• Prerequisite: GEOG 120 or equivalent (may be taken concurrently)
• Note: Field trips may be included in the course
A laboratory course to supplement GEOG 120 (Physical Geography). Emphasis will be placed on using the skills and tools of modern physical geography and analyzing and interpreting geographic data. Maps, aerial photographs, satellite images, weather instruments and computer analysis are stressed. CSU, UC

GEOG-150  Topics in Geography
3–4 units  LR
• May be repeated three times
• Variable hours
A supplemental course in Geography to provide a study of current concepts and problems in geography. Specific topics will be announced in the schedule of classes. CSU

GEOLOGY – GEOL

GEOL-298  Independent Study
.5–3 units  SC
• May be repeated three times
• Variable hours
• Note: Submission of acceptable educational contract to department and Instruction Office; topics must extend beyond courses offered.
An opportunity for advanced students to study special interests under direction of the faculty. CSU

HEALTH SCIENCE – HSCI

HSCI-150  Topics in Health Sciences
.3–4 units  SC
• May be repeated three times
• Variable hours
A supplemental course in Health Science to provide a study of current concepts and problems in health science. Specific topics will be announced in the schedule of classes. CSU

HSCI-298  Independent Study
.5–3 units  SC
• May be repeated three times
• Variable hours
• Note: Submission of an acceptable educational contract to department and instruction office; topics must extend beyond courses offered.
An opportunity for advanced students to study special interests under the direction of faculty. CSU

HISTORY – HIST

HIST-134  California Travel Study: An Individualized Approach
1 unit  P/NP
• May be repeated three times
• 10 hours lecture/18 hours laboratory per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Each of the four sections of History 134 may be devoted to any one of the four available tours. Students may choose one of the following: The California Missions: Myth and Reality; In Pursuit of Jack London; Historic Sacramento; or WWII in the East Bay. May be repeated three times provided topics differ.
An in-depth investigation of selected topics in California history. Students will complete the course by following a set of printed course instructions, traveling to historic sites in the state, listening to prerecorded lectures about the sites, and completing a written evaluation of the sites. See schedule of courses for topics offered. CSU

HIST-155  Topics in History
1–3 units  SC
• May be repeated three times
• Variable hours
A supplemental course in history to provide a study of current concepts and problems in history and related substantive areas. Specific topics will be announced in the schedule of classes. CSU
**HORTICULTURE – HORT**

**HORT-110 Introduction to Horticulture**
4 units SC
- 54 hours lecture/54 hours laboratory per term
- Recommended: HORT 110 or equivalent; eligibility for ENGL 122 or equivalent

Introduction to horticulture explores the biology and economics of growing and care for plants. The course covers the breadth of basic horticulture practices and the biological and environmental principles on which they are based. The students are exposed to a variety of field studies that stress the practical applications of horticulture science: propagation, plant identification, pest/ disease identification and control options, environmentally safe use of pesticides, and factors for favorable plant growth. There will be an overview to the different aspects of the horticulture industry. CSU, UC

**HORT-115 Plant Terminology**
3 units SC
- 54 hours lecture per term
- Recommended: HORT 110 or equivalent; eligibility for ENGL 122 or equivalent

Terminology used in the identification of plants; terms relating to roots, stems, leaves, flowers and fruit used in all plant identification courses and in introduction to Horticulture. CSU

**HORT-140 Basic Plant Taxonomy**
1.5 units SC
- 18 hours lecture/36 hours laboratory per term
- Recommended: HORT 110 or equivalent; eligibility for ENGL 122 or equivalent

An overview course designed to acquaint students with the artificial and unsettled systems of classification as applied to vascular plant species in cultivation. Topics to be presented include: the nature and use of keys, the naming of plants, vegetative and reproductive terminology, modern phylogenetic systems, and a basic introduction to major plant groupings, ecologically and economically. CSU

**HORT-160 Plant Propagation**
1.5 units SC
- 18 hours lecture/36 hours laboratory per term
- Recommended: HORT 110 or equivalent; eligibility for ENGL 122 or equivalent

This course will teach the principles and practices of plant propagation by growing plants from seed and cuttings into marketable nursery stock. It will teach the student to understand the physiological process that a plant part goes through in becoming a living plant. CSU

**HUMANITIES – HUMAN**

**HUMAN-115 Introduction to Humanities: The American Multicultural Experience**
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

This class will explore the multicultural diversity of contemporary American creative expression through an integrative survey of the visual arts, literature, music, thought and religion, dance, theater, and film. Study will focus on at least three of the following cultural groups: African-American, Native Indian, Asian-American, and Latino-American. This course will examine contemporary creative works in relation to their historical roots, as well as the contemporary cultural context in which they have been created. CSU, UC

**HUMAN-118 Film, Fiction, and Criticism**
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

Students will examine the aesthetic make-up of masterworks of literature chosen from the novel, the short story and the play, and will learn to draw intelligent conclusions about the structure and meaning of these literary works. Students will be introduced to the hands-on integration of three areas of the humanities—literature, cinema/video, and the branch of philosophy called aesthetic criticism. CSU, UC

**JAPANESE – JAPAN**

**JAPAN-120 First Term Japanese**
5 units SC
- 90 hours lecture/18 hours laboratory by arrangement per term
- Note: JAPAN 120 and 121 combined are equivalent in content to JAPAN 145, 146 and 147 combined.

This course is an introduction to the Japanese language. Using realistic situations, students will learn proper pronunciation, vocabulary, basic grammar, sentence structure, two types of Japanese characters (Hiragana and Katakana) and realistic aspects of Japanese culture. Basic KANJI characters will be introduced. CSU, UC (credit limits may apply to UC-see counselor)

**JAPAN-121 Second Term Japanese**
5 units SC
- 90 hours lecture/18 hours laboratory by arrangement per term
- Recommended: JAPAN 120 or equivalent
- Note: JAPAN 120 and 121 combined are equivalent in content to JAPAN 145, 146 and 147 combined.

This course is designed for those who have taken Japanese 120 or who have the equivalent knowledge and skills. Students will further develop their ability to speak, read and write Japanese. They will deepen their knowledge of Japanese culture and society and improve their communication skills. An increasing number of KANJI characters will be introduced. CSU, UC (credit limits may apply to UC-see counselor)
JAPAN-145 First Trimester Japanese
3 units SC
- 54 hours lecture/18 hours laboratory by arrangement per term
- Note: JAPAN 120 and 121 combined are equivalent in content to JAPAN 145, 146 and 147 combined.
This course is an introduction to the Japanese language. Using realistic situations to learn basic language communication skills, students will learn proper pronunciation, vocabulary, basic grammar, sentence structure, two types of Japanese characters (Hiragana and Katakana) and realistic aspects of Japanese culture. The course is taught as a trimester series. CSU, UC (credit limits may apply to UC-see counselor)

JAPAN-146 Second Trimester Japanese
3 units SC
- 54 hours lecture/18 hours laboratory by arrangement per term
- Recommended: JAPAN 145 or equivalent
- Note: JAPAN 120 and 121 combined are equivalent in content to JAPAN 145, 146 and 147 combined.
This course continues to develop essential vocabulary words for communicative fluency, emphasizing speaking and listening. Writing, reading and culture are taught as well. Additional Kanji characters will be introduced. The course is taught as a trimester series. CSU, UC (credit limits may apply to UC-see counselor)

JAPAN-147 Third Trimester Japanese
3 units SC
- 54 hours lecture/18 hours laboratory by arrangement per term
- Recommended: JAPAN 146 or equivalent
- Note: JAPAN 120 and 121 combined are equivalent in content to JAPAN 145, 146 and 147 combined.
This course is the third trimester of basic Japanese language study. It further develops realistic and communicative fluency. Kanji is introduced increasingly at the sentence and paragraph level. Japanese customs and traditions will be explored further. The course is taught as a trimester series. CSU, UC (credit limits may apply to UC-see counselor)

JAPAN-245 Fourth Trimester Japanese
3 units SC
- 54 hours lecture per term
- Recommended: JAPAN 147 or equivalent
This course continues to develop the fluency to use the language appropriately in various conversational contexts. Additional emphases are placed on communication skills, and reading and writing. An increased number of Kanji characters are introduced with more detailed information about character components and word formation. Contemporary and traditional Japanese cultural elements will be explored. CSU, UC

LEARNING SKILLS – LRNSK

LRNSK-056 Adaptive Computer Technology
5-1.5 units P/NP
- May be repeated three times
- Non degree applicable
- Variable hours
- Note: Eligibility determined by DSS guidelines. Students must be able to profit from instruction, yet present a disability that would limit them in mainstream computer application classes. No computer skills or knowledge are required.
This course provides individualized and small-group instruction for students with disabilities in the use of computer-based assistive technology which supports students' learning styles and/or physical needs. This process will be facilitated by the use of speech recognition programs, text-to-speech software, and adaptive keyboarding strategies as appropriate.

LIBRARY STUDIES – L AND LS

L-100 Introduction to a Career in Library and Information Technology
1 unit SC
- 18 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
An introduction to the dynamic field of library and information studies for paraprofessionals. This course explores various types of libraries and information centers, and the competencies needed for a successful career in the field as well as job opportunities in libraries and information centers. CSU

L-103 Access to Library Materials
2 units LR
- 36 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
This course introduces students to the full array of access services in a variety of library settings. Special skills and competencies for paraprofessionals will be covered as they relate to providing and preserving quality access to library patrons. The course will also explore the philosophy of access services from a historical perspective and applied to a variety of current situations. CSU

L-105 Reference and Research Services: Tools and Techniques
3 units LR
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
This course is an introduction to the use of print and online information resources found in public, school, college and special libraries. Students learn effective techniques for assisting library patrons, and are provided opportunities for developing reference service skills. The class uses resources available through the DV library plus other commonly available resources. CSU
L-108 Acquisition of Library Materials
1 unit LR
- 18 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
This course teaches library concepts and practices involving the selection, ordering and receiving of materials from the decision to purchase materials to their receipt, processing and distribution. Students will learn to use automated systems and other technology applications in the practice of selecting and deselecting books. CSU

L-111 Storytelling
2 units SC
- 36 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
An introduction to storytelling designed to develop skills as storytellers in the library, classroom, home and other settings. The class will survey various types and formats of storytelling and provide practical experience in presenting and evaluating stories. CSU

L-112 Internet Skills for Library Personnel
1 unit SC
- 18 hours lecture per term
- Recommended: L 103 or equivalent; eligibility for ENGL 122 or equivalent
This course teaches the use of the Internet in providing library and information services. The class is designed for library personnel whose responsibilities include using the Internet and other automated systems for work-related tasks such as reference, cataloging, acquisitions and other information management activities. Exploration of advanced searching techniques, user training and evaluation of online resources are included. CSU

L-150 Topics in Library and Information Technology
3-4 units SC
- May be repeated three times
- Variable hours
- Recommended: Eligibility for ENGL 122 or equivalent
A supplemental course in Library to provide a study of current concepts and problems in library technology. Specific topics will be announced in the schedule of classes. CSU

LS-120 Introduction to Library Resources
1 unit P/NP
- 54 hours laboratory by arrangement per term
Self-paced course introducing students to basic research skills and information resources. The course is designed to introduce students to finding, evaluating and using information in a variety of print and online formats. It will provide college level information skills for the effective use of the library at Diablo Valley College and other libraries. CSU, UC

LS-121 Information Literacy and Research Skills
1 unit P/NP
- 9 hours lecture/27 hours laboratory per term
- Recommended: Eligibility for ENGL 122 or equivalent
The course teaches the research strategies and skills for successfully finding, retrieving, evaluating and using information in various formats. It combines library skills, research methods, and information technology literacy. Coursework includes the ethical and legal aspects of information use and the critical thinking skills necessary for effective college research. CSU, UC

MACHINE TECHNOLOGY – MATEC

MATEC-121 Machine Processes II
3 units LR
- 36 hours lecture/72 hours laboratory per term
- Recommended: MATEC 120 or equivalent
This course will include in-depth coverage of precision measuring and inspection practices, advanced lathe and vertical milling machine operations and surface grinder operation. Thread theory, thread nomenclature and thread forming methods, and boring on lathes and vertical milling machines will be covered. Selection of metals and introductory metallurgy will be presented. Basic principles of Computer Numerical Control (CNC) machining will be introduced. CSU

MATEC-222 Introduction to Computer Numerical Control
3 units LR
- 18 hours lecture/90 hours laboratory per term
- Recommended: MATEC 120 or equivalent
- Note: Recommended: 1) Experience in lathe and vertical milling machines and their use; 2) Experience in using precision measuring tools.
This course introduces students to Computer Numerical Control (CNC) machining including Computer Aided Design (CAD), Computer Aided Machining (CAM), software and G-code machine languages. Students will learn the design processes, geometry creation and 3D modeling needed for part creation. Students will take CNC programs and learn how to set up and operate CNC machines to fabricate parts. CSU

MATHEMATICS – MATH

MATH-075 Prealgebra with Arithmetic Review
4 units SC
- Non degree applicable
- 72 hours lecture/18 hours laboratory/18 hours laboratory by arrangement per term
- Recommended: MATH-065 or equivalent
- Note: This course has both a required study group and a lab requirement (see hours by arrangement in course listing), representing a significant portion of your course grade. Labs require computer and internet access, but may be completed in any location with such access, on or off campus.
Students will learn pre algebra, review arithmetic, and learn how to use them in their daily lives. Topics include the arithmetic operations, long multiplication and division, decimals, fractions, percents, signed numbers, natural number exponents, order of operations, introduction to the concept of variables, combining like terms, solving linear equations, application problems and the use of geometric formulas.
MATH-075SP Prealgebra with Arithmetic Review - Self Paced
4 units SC
• Non degree applicable
• 54 hours lecture/72 hours laboratory by arrangement per term
• Recommended: MATH-065 or equivalent
• Note: In this computer-assisted self-paced class, students study out of the textbook and online and take a combination of online and in-class exams. This course has a lab requirement (see hours by arrangement in course listing). The labs may require computer access, 50% of your lab hours must be completed in the DVC Math Lab, and the rest may be completed in any location with computer access, on or off campus. Students may choose to complete MATH 075SP in one semester, or take up to 4 semesters. MATH 075SP is equivalent to MATH 075; students who have completed MATH 075 will not receive credit for MATH 075SP.

This course is a computer-assisted self-paced class equivalent to MATH 075. Students will learn prealgebra, review arithmetic, and learn how to use both in their daily lives. Topics include arithmetic operations, long multiplication and division, decimals, fractions, percents, signed numbers, natural number exponents, order of operations, introduction to the concept of variables, combining like terms, solving linear equations, application problems and the use of geometric formulas.

MATH-110 Elementary Algebra
4 units SC
• 90 hours lecture/36 hours laboratory by arrangement per term
• Prerequisite: MATH 075 or MATH 075SP or equivalent
• Note: This course has a lab requirement (see hours by arrangement in course listing). The labs will be assigned by your instructor and will be a significant portion of your course grade. The labs require computer and internet access, but may be completed in any location with such access, on or off campus.

This course is an introduction to the techniques and reasoning of algebra, including linear equations and inequalities, development and use of formulas, algebraic expressions, systems of equations, graphs and introduction to quadratic equations.

MATH-110SP Elementary Algebra – Self Paced
4 units SC
• 54 hours lecture/72 hours laboratory by arrangement per term
• Prerequisite: MATH 075 or MATH 075SP or equivalent
• Note: In this computer-assisted self-paced class, students study out of the textbook and online and take a combination of online and in-class exams. This course has a lab requirement (see hours by arrangement in course listing). The labs may require computer access, 50% of your lab hours must be completed in the DVC Math Lab, and the rest may be completed in any location with computer access, on or off campus. Students may choose to complete MATH 110SP in one semester, or take up to 4 semesters. MATH 110SP is equivalent to MATH 110; students who have completed MATH 110 will not receive credit for MATH 110SP.

This course is a computer-assisted self-paced equivalent to MATH 110. The topics include linear equations and inequalities, development and use of formulas, algebraic expressions, systems of equations, operations on polynomials, factoring, graphs, and an introduction to quadratic equations.

MATH-114 Geometry
3 units SC
• 54 hours lecture/36 hours laboratory by arrangement per term
• Prerequisite: MATH 110 or MATH 110SP or equivalent
• Recommended: Eligibility for ENGL 116/118 or equivalent
• Note: This course has a lab requirement (see hours by arrangement in course listing). The labs will be assigned by your instructor and will be a significant portion of your course grade. The labs require computer and internet access, but may be completed in any location with such access, on or off campus.

Students will use geometric definitions, axioms, and constructions and both inductive and deductive reasoning techniques to investigate the properties of lines, polygons, and circles. Students will prove geometric theorems, and derive and apply formulas for perimeter, area, and volume for a variety of plane and solid geometric objects.

MATH-120 Intermediate Algebra
4 units SC
• 90 hours lecture/36 hours laboratory by arrangement per term
• Prerequisite: MATH 110 or MATH 110SP or equivalent
• Note: This course has a lab requirement (see hours by arrangement in course listing). The labs will be assigned by your instructor and will be a significant portion of your course grade. The labs require computer and internet access, but may be completed in any location with such access, on or off campus.

This course will expand upon the material covered in Elementary Algebra. Topics will include special products and factors, fractional equations, systems of linear equations, inequalities, conics, complex numbers, the binomial theorem, logarithms, and functions. This course is equivalent to second year high school algebra course.

MATH-120SP Intermediate Algebra – Self Paced
4 units SC
• 54 hours lecture/72 hours laboratory by arrangement per term
• Prerequisite: MATH 110 or MATH 110SP or equivalent
• Note: In this computer-assisted self-paced class, students study out of the textbook and online and take a combination of online and in-class exams. This course has a lab requirement (see hours by arrangement in course listing). The labs may require computer access, 50% of your lab hours must be completed in the DVC Math Lab, and the rest may be completed in any location with computer access, on or off campus. Students may choose to complete MATH 120SP in one semester, or take up to 4 semesters. MATH 120SP is equivalent to MATH 120; students who have completed MATH 120 will not receive credit for MATH 120SP.

This course is a computer-assisted self-paced class equivalent to MATH 120. The topics include special products and factors, fractional equations, systems of linear equations, inequalities, conics, complex numbers, the binomial theorem, logarithms, and functions. The course is equivalent to a second year high school algebra course.
MATH-121  Plane Trigonometry
3 units  SC
- 54 hours lecture/36 hours laboratory by arrangement per term
- Prerequisite: MATH 120 or MATH 120SP or equivalent
- Recommended: MATH 114 or equivalent
- Note: This course has a lab requirement (see hours by arrangement in course listing). The labs will be assigned by your instructor and will be a significant portion of your course grade. The labs require computer and internet access, but may be completed in any location with such access, on or off campus.

This course focuses on the theory and applications of trigonometry, including right triangle trigonometry, general angle trigonometry, and trigonometry on the unit circle, as well as trigonometric functions of real numbers. Applications include solutions of right and oblique triangles in problems in surveying, physics, engineering and navigation. CSU

MATH-124  Math for Liberal Arts
3 units  LR
- 54 hours lecture/36 hours laboratory by arrangement per term
- Prerequisite: MATH 120 or MATH 120SP or equivalent
- Note: This course has a lab requirement (see hours by arrangement in course listing). The labs will be assigned by your instructor and will be a significant portion of your course grade. The labs require computer and internet access, but may be completed in any location with such access, on or off campus.

Students will learn how to apply techniques and concepts of intermediate algebra and critical thinking to the solving of contemporary problems in mathematics. The course is a survey of topics that may include (but are not limited to): exponential functions, logarithmic scales, probability, statistics, finance, matrix operations, logic and geometry. CSU, UC (credit limits may apply to UC-see counselor)

MATH-135  College Algebra
3 units  LR
- 72 hours lecture/36 hours laboratory by arrangement per term
- Prerequisite: MATH 120 or MATH 120SP or equivalent
- Note: This course has a lab requirement (see hours by arrangement in course listing). The labs will be assigned by your instructor and will be a significant portion of your course grade. The labs require computer and internet access, but may be completed in any location with such access, on or off campus.

A study of functions and their graphs, including polynomial, rational, exponential, and logarithmic functions. Inequalities, non-linear systems, conic sections. CSU, UC (credit limits may apply to UC-see counselor)

MATH-135SP  College Algebra - Self Paced
3 units  LR
- 54 hours lecture/72 hours laboratory by arrangement per term
- Prerequisite: MATH 120 or MATH 120SP or equivalent
- Note: In this computer-assisted self-paced class, students study out of the textbook and online and take a combination of online and in-class exams. This course has a lab requirement (see hours by arrangement in course listing). The labs may require computer access, 50% of your lab hours must be completed in the DVC Math Lab, and the rest may be completed in any location with computer access, on or off campus. Students may choose to complete MATH 135SP in one semester, or take up to 4 semesters. MATH 135SP is equivalent to MATH 135; students who have completed MATH 135 will not receive credit for MATH 135SP.

This course is a computer-assisted self-paced class, equivalent to MATH 135. The topics include a study of functions and their graphs, including polynomial, rational, exponential, and logarithmic functions. Inequalities, nonlinear systems, conic sections. CSU, UC (credit limits may apply to UC-see counselor)

MATH-183  Calculus for Management, Life Science and Social Science II
3 units  LR
- 72 hours lecture per term
- Prerequisite: MATH 182 or equivalent
- Recommended: MATH 121 or equivalent

This is the second course in a two-semester sequence in calculus for management, life science, and social science majors, and is a continuation of Mathematics 182. Topics include techniques of integration, applications of the integral, multivariable functions, differential equations, and Taylor polynomials. CSU, UC (credit limits may apply to UC-see counselor)

MUSIC – MUSIC

MUSIC-101  Beginning Guitar
1 unit  SC
- May be repeated once
- 54 hours lecture per term
- Note: Students must provide an acoustic six-string guitar for use in the course.

This course provides beginning six-string guitar instruction for general students as well as music students seeking to learn a second instrument. The course includes instruction in both folk and classical styles. First position keys and chords, harmonization by ear, transposition, various strums and styles, finger-picking accompaniments, bass notes, basic music theory, and note reading are taught. No previous musical experience is necessary. CSU, UC

MUSIC-102  Intermediate Guitar
1 unit  SC
- May be repeated once
- 54 hours lecture per term
- Recommended: MUSIC 101 or equivalent
- Note: Students must provide an acoustic six-string guitar for use in the course.

This course provides intermediate six-string guitar instruction for students who have satisfactorily completed MUSIC 101 or the equivalent. Intermediate level classical solo repertoire as well as equivalent level popular music will be examined. Bar chords, intermediate level keys and arpeggios, transposition, with and without a capo, strums, bass runs, and classical theory will be taught. CSU, UC
MUSIC-103 Guitar Ensemble
1 unit SC
- May be repeated once
- 54 hours lecture per term
- Recommended: MUSIC 102 or equivalent
- Note: Students must provide an acoustic six-string guitar for use in the course.

This course focuses on the sight-reading, rehearsal, and performance of basic-level guitar ensemble literature. Basic note reading skills will be employed. Each member of the group will become a better musician through individual practice, listening, performance, and being an active part of the ensemble experience. CSU, UC

MUSIC-104 Advanced Guitar Ensemble
1 unit SC
- May be repeated once
- 54 hours lecture per term
- Recommended: MUSIC 103 or equivalent
- Note: Students must provide an acoustic six-string guitar for use in the course.

This course focuses on the sight-reading, rehearsal, and performance of advanced guitar ensemble literature. Students will experience an expanded ensemble repertoire arranged for up to eight players featuring the music of Bach, Haydn, and other classical masters. Advanced note reading skills will be employed. Each member of the group will become a better musician through individual practice, listening, performance, and being an active part of the ensemble experience. CSU, UC

MUSIC-110 Introduction to Music Literature
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Formerly: MUSLT 110

This course is an introduction to the experience of listening to music with an appreciation of its technical, stylistic, expressive, social and historical aspects. Audio recordings, audio-video recordings, and live performances are used to study the evolution of Western classical styles and genres including opera, symphony, concerto, and chamber music, as well as jazz and rock. Some comparison of Western musical traditions with those of other cultures will be included. CSU, UC

MUSIC-115 Music of the Middle East, North Africa, and South Africa
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Formerly: MUSLT 115

This course is a survey of Middle Eastern, North African, South Asian and Diaspora music cultures. Students will study popular and sacred musical traditions in both rural and urban contexts, and learn how music making relates to: religion, political, ethnic and national identity, popular culture, gender, and globalization. Historical, cultural, and social conditions for music will be explained, and current global issues and events will be demonstrated through evaluating the ways in which hybrid musical forms emerge when Middle Eastern, Western and other musical and cultural elements blend or conflict. CSU, UC

MUSIC-116 Native American Music
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Formerly: MUSLT 116

This course provides a survey of the numerous musical traditions, contributions and influences of the Native peoples in the Americas, including the Caribbean and Hawaii. Numerous traditions involving music will be presented that are affected by historical and current social and political conditions. Global issues and events will be explained through analyzing the ways in which new or hybrid musical forms emerge when Native, Western and other musical and cultural elements blend or come into conflict. Music will be explained as a symbol of identification and a tool of resistance in the process of cultural continuity and change. Perspectives will be drawn from ethnomusicology, the social sciences, multimedia, and Internet sources. CSU, UC

MUSIC-134 Musical Theater Workshop
1 unit SC
- May be repeated three times
- 54 hours laboratory per term
- Prerequisite: Audition or equivalent
- Formerly: MUSPF 134

This course provides training and experience for instrumentalists and vocalists in the production and presentation of a musical including comprehensive rehearsal and performance. CSU, UC

MUSIC-137 Jazz Combos
1 unit SC
- May be repeated once
- 54 hours lecture per term
- Prerequisite: Audition or equivalent
- Formerly: MUSPF 137

This is a course made up of small jazz combos that rehearse and perform a variety of jazz styles. The course develops the ability to improvise, sight read, and perform in a variety of small group settings. The combos will perform at various concerts and festivals. This course is for students with intermediate to advanced ability on an instrument or voice with improvisational experience. CSU, UC

MUSIC-139 Marching Band Techniques
1 unit LR
- May be repeated three times
- 54 hours lecture per term

This is a performance organization whose goals include the sight-reading, rehearsal and performance of a variety of marching band literature. Each member of the group will become a better musician through individual practice and performance, listening and being an active part of the marching band experience. New literature will be performed each semester. CSU, UC (credit limits may apply to UC-see counselor)
MUSIC-166 Chamber Singers
1 unit SC
• May be repeated three times
• Prerequisite: Audition or equivalent
• Formerly: MUSPF 166
This course is for the study and public performance of ancient through contemporary chamber choir literature including music influenced by non-Western cultures. New literature is studied each semester. CSU, UC

OCEANOGRAPHY – OCEAN

OCEAN-102 Fundamentals of Oceanography with Lab
4 units SC
• 72 hours lecture/36 hours laboratory per term
• Recommended: Eligibility for ENGL 122 or equivalent
• Note: Students who have taken Fundamentals of Oceanography OCEAN 101 (formerly OCEAN 109) will not receive credit for Fundamentals of Oceanography OCEAN 102.
• Formerly OCEAN 110
This course is an introduction to the geographical, chemical, physical and biological aspects of the world’s oceans and the interactions between these different aspects. Lecture topics will include (but are not limited to): The history of oceanography; historic and modern oceanographic sampling and analysis methods; the scientific method and its utilization in the ocean sciences; plate tectonics and marine geology; the marine-land interface; ecological problems of the local bay, estuary, delta and state wide water resources; oceans’ roles as a dominant influence on the earth and its climate; ocean resource management and preservation of the marine environment; the deep sea: properties, animal diversity and evolutionary adaptations; and evolution by means of natural selection. Students will experience the role of oceanographer as they prepare for, participate in, and analyze data collected on a research expedition in local bay waters. CSU, UC

PHYSICAL EDUCATION COMBATIVE – PECMB

PECMB-110 Jujitsu
.5-2 units SC
• May be repeated three times
• Variable hours
This is an activity course involving the history, philosophy, techniques and safety aspects of jujitsu. This Japanese system of unarmed combat teaches students to yield to the opponent’s strength to gain a physical advantage. Students will learn jujitsu techniques, as well as increase cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC-see counselor)

PECMB-112 Self-Defense
.5-2 units SC
• May be repeated three times
• Variable hours
This is an activity course that combines defensive techniques and concepts from jujitsu, judo, karate, and aikido. Students will explore self-defense techniques, as well as increase muscular fitness (strength, endurance, flexibility, and balance). Improve self-discipline, focus, balance, relieve stress, and increase mental awareness. CSU, UC (credit limits may apply to UC-see counselor)

PECMB-111 Tae Kwon Do
.5-2 units SC
• May be repeated three times
• Variable hours
This is an activity course in history, philosophy, techniques and safety aspects of tae kwon do. This is an ancient Korean martial art where students will learn “the way of the fist and foot,” as well as increase cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC-see counselor)

PECMB-113 Tai Chi Chuan
.5-2 units SC
• May be repeated once
• Variable hours
This is an activity course involving the history, philosophy, techniques and safety aspects of tai chi chuan. Tai chi chuan is a slow moving Chinese martial art used as exercise and self-development. Students will learn fundamental forms, as well as increase muscular strength and endurance, flexibility and balance. CSU, UC (credit limits may apply to UC-see counselor)

PECMB-114 Aikido
.5-2 units SC
• May be repeated once
• Variable hours
This is an activity course involving the history, philosophy, techniques and safety aspects of aikido. This is a Japanese warrior art involving noncompetitive, non-fighting discipline, that is comprised purely of defensive techniques and principles of movement. Students will learn fundamental aikido techniques, as well as increase cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC-see counselor)

PECMB-118 Judo
.5-2 units SC
• May be repeated three times
• Variable hours
This is an activity course involving the history, philosophy, techniques and safety aspects of judo. Judo emphasizes throws and pins, self-discipline, punctuality, courtesy, and respect. Students will learn judo techniques, as well as increase cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC-see counselor)

PECMB-119 Karate
.5-2 units SC
• May be repeated three times
• Variable hours
This is an activity course involving the history, philosophy, techniques and safety aspects of Kajukenbo Karate. This martial art form teaches the way of the “empty hand” using legs, arms and fists, as well as Kiai (expression of inner energy), which accompanies each action. Students will learn karate techniques, as well as increase cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC-see counselor)
PECMB-123 Intermediate Tai Chi Chuan
.5-2 units SC
- May be repeated once
- Variable hours
- Recommended: PECMB 113 or equivalent
This is an activity course focusing on an intermediate level of tai chi chuan practice. Students will master more complex forms and continue to develop concentration, and cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC-see counselor)

PECMB-124 Intermediate Aikido
.5-2 units SC
- May be repeated once
- Variable hours
- Recommended: PECMB 114 or equivalent
This is an activity course focusing on an intermediate level of aikido practice. Students will explore more complex skills and techniques with an emphasis on increased pace, as well as continue to develop concentration, and cardiovascular and muscular fitness. CSU, UC (credit limits may apply to UC-see counselor)

PERSIAN – PERSN

PERSN-155 First Term Conversational Persian
3 units SC
- May be repeated once
- 54 hours lecture/18 hours laboratory by arrangement per term
This is an introductory course in basic Persian conversation utilizing practical material with oral-aural practice based on this material. Calligraphy is included in the course. CSU

PERSN-156 Second Term Conversational Persian
3 units SC
- 54 hours lecture/18 hours laboratory by arrangement per term
- Recommended: PERSN 155 or equivalent
This course is a continuation of PERSN 155. Basic skills are expanded to include more complex conversational skills. Study of calligraphy is expanded. CSU

PERSN-157 Third Term Conversational Persian
3 units SC
- 54 hours lecture/18 hours laboratory by arrangement per term
- Recommended: PERSN 156 or equivalent
This course is a continuation of PERSN 156. Complex conversational skills are perfected, along with basic grammatical principles. Calligraphy is practiced as an art form beyond its usage as a form of writing. CSU

PHYSICS – PHYS

PHYS-129 Introductory Physics for Engineers
4 units SC
- 90 hours lecture/36 hours laboratory per term
- Co-requisite: MATH 192 or equivalent (may be taken previously)
- Recommended: Eligibility for ENGL 122 or equivalent
- Note: this course or its equivalent is required for PHYS 130
Designed for engineering, physics and chemistry majors, this course is a study of vectors, motion, forces, momentum, energy and rotating systems. One or more additional topics such as geometric optics, electricity, the atomic nature of matter or the study of fluids will also be presented. The student will be introduced to basic vocabulary and techniques of studying physics. Portions of this course may be taught online, for example: problem solving or discussion. CSU, UC (credit limits may apply to UC-see counselor)

PHYS-150 Topics in Physics
3-4 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and instruction office; topics must extend study beyond courses offered.
A supplemental course in Physics to provide a study of current concepts and problems in physics. Specific topics will be announced in the schedule of classes. CSU

PHYS-150 Topics in Physical Science
3-4 units SC
- May be repeated three times
- Variable hours
A supplemental course in Physical Science to provide a study of current concepts and problems in physical science. Specific topics will be announced in the schedule of classes. CSU
age, resistance, capacitance, induced electric fields, Maxwell’s equations and plane electromagnetic waves. CSU, UC (credit limits may apply to UC-see counselor)

PHYS-231  Physics for Engineers and Scientists C: Optics and Modern Physics
4 units LR
- 90 hours lecture/36 hours laboratory per term
- Prerequisite: PHYS 231 or equivalent; MATH 294 or equivalent (may be taken concurrently)
- Recommended: Eligibility for ENGL 122 or equivalent

Designed for engineering, physics and chemistry majors, this course is a continuation of Physics 130 and 230. It is a lecture and laboratory study of optics and modern physics. Topics included are light as an electromagnetic wave, geometric and wave optics, special relativity, quantum physics, atomic and molecular physics, condensed matter physics, and nuclear physics. CSU, UC (credit limits may apply to UC-see counselor)

PLUMBING – PLUMB

PLUMB-150  Topics in Plumbing
.3-.4 units SC
- May be repeated three times
- Variable hours

A supplemental course in Plumbing to provide a study of current concepts and problems in plumbing. Specific topics will be announced in the schedule of classes. CSU

POLITICAL SCIENCE – POLSC

POLSC-155  Topics in Political Science
.3-.4 units SC
- May be repeated three times
- Variable hours

A supplemental course in political science to provide a study of current concepts and problems in political science and related substantive areas. Specific topics will be announced in the schedule of classes. CSU

POLSC-250  International Relations
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

Introduction to various aspects of international relations and politics. Consideration of such topics as the sovereignty, the nation-state and international politics, the nature of the global community, international law, world economics, the United Nations and other international organizations and contemporary world problems. CSU, UC

POLSC-298  Independent Study
.5-.3 units SC
- May be repeated three times
- Variable hours
- Note: Submission of acceptable educational contract to department and instruction office; topics must extend study beyond courses offered.

An opportunity for advanced students to study special interests under the direction of the faculty. CSU

PSYCHOLOGY – PSYCH

PSYCH-101  Introduction to Psychology
3 units SC
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent
- Formerly PSYCH 210

Psychology 101 is a study of the major theories, methods and concepts of modern psychology. The orientation of the course is the scientific study of behavior and mental processes, and covers such areas as: the history and systems of psychology, the biological foundations of behavior, perception, states of consciousness, learning, memory, motivation, emotion, human development, personality, stress and health, abnormal psychology, therapies, and social psychology. CSU, UC

RUSSIAN – RUSS

RUSS-220  Third Term Russian
5 units SC
- 90 hours lecture/18 hours laboratory by arrangement per term
- Recommended: RUSS 121 or equivalent

This is a third semester course which delves more extensively into the declensions of nouns and the coordination of various case endings including the accusative and genitive plurals and the instrumental cases. Reflexive, imperfective and perfective verbs are covered and reading and writing continues at an increasing level of complexity. There is continued study and interpretation of Russian and Soviet culture through literature and selected articles. CSU, UC

SIGN LANGUAGE – SIGN

SIGN-280  American Sign Language (ASL) I
3 units SC
- May be repeated once
- 54 hours lecture per term
- Recommended: Eligibility for ENGL 122 or equivalent

Designed for students interested in learning beginning American Sign Language, a language developed in a visual/gestural mode, and used by the general American deaf population. Also designed to increase the student’s awareness of the deaf culture. The course serves as an introduction to American Sign Language introducing expressive and receptive sign, the manual alphabet, facial expression, and body gestures. Emphasis is on conversational skills in functional situations, knowledge of deaf culture and the deaf community. CSU, UC

SIGN 281  American Sign Language (ASL) II
3 units SC
- 54 hours lecture per term
- Prerequisite: SIGN 280 or equivalent

Course builds on basic principle and vocabulary introduced in American Sign Language I. Course further develops skills including expressive and receptive sign, the manual alphabet, facial expression, and body gestures. Emphasis on conversational skills in functional situations, continued vocabulary and grammatical expression development, and knowledge of deaf culture and community. CSU, UC
SIGN 282  American Sign Language (ASL) III
3 units  SC
   • 54 hours lecture per term
   • Prerequisite: SIGN 281 or equivalent
Using ASL I and II as a base, this course expands vocabulary and grammatical skills, both receptive and expressive. It will further develop conversational skills in functional situations, and lead to an appreciation of the deaf culture and history. CSU, UC

SOCIAL SCIENCE – SOCSC

SOCSC-110  General Course in Social Science
3 units  SC
   • 54 hours lecture per term
   • Recommended: Eligibility for ENGL 122 or equivalent
A multicultural and interdisciplinary examination of the various interpretations developed within the social sciences of the roles of individuals and their experiences in American society. The course considers the roles of social institutions, federal, state, and local governments, and surveys the ideas and values that played a part in shaping America's cultural image. The course surveys the significant contributions of Latinos, African-Americans, Native-Americans, and women in shaping the evolution of the concept of American individualism. It also examines critical events in the shaping of social, political, and economic identity among national and gender groups in American society and culture. CSU, UC

SOCSC-123  American Popular Culture
3 units  SC
   • 54 hours lecture per term
   • Recommended: Eligibility for ENGL 122 or equivalent
A multicultural and interdisciplinary examination of popular culture's changing nature in American society. It examines the social institutions and values that shape American popular culture, and national and California state governments through the lens of popular culture. The course considers the significant contributions of Latino, African-American, Native-American, and Jewish communities in shaping the evolution of American popular culture, and considers the importance of women as both producers and consumers of popular culture. CSU, UC (credit limits may apply to UC-see counselor)

SOCSC-155  Topics in Social Science
3-4 units  SC
   • May be repeated three times
   • Variable hours
A supplemental course in the social sciences to provide a study of current concepts and problems in social sciences and related substantive areas. Specific topics will be announced in the schedule of classes. CSU

SOCSC-163  French Life and Culture
3 units  SC
   • 54 hours lecture per term
   • Recommended: Eligibility for ENGL 122 or equivalent
A survey of French life and culture in historical and contemporary perspective. Specifically, the course will cover the history, politics, economics, culture, and society of modern-day France. This course is taught on-site within the study abroad program. CSU

SOCIOLOGY – SOCIO

SOCIO-120  Introduction to Sociology
3 units  SC
   • 54 hours lecture per term
   • Recommended: Eligibility for ENGL 122 or equivalent
An introduction to the theory and scientific methodology of sociology: a survey of the interactions, interrelationships, and processes of society as an organized structure. The course introduces the discipline's substantive areas including methodology, socialization, culture, social stratification, race, and ethnic minorities, and begins institutional analysis with the family, religion, and education. CSU, UC

SOCIO-121  Introduction to Social Problems
3 units  SC
   • 54 hours lecture per term
   • Recommended: Eligibility for ENGL 122 or equivalent
A survey of perspectives on major social problems, primarily in the urban, industrial settings. Includes sources, consequences of and means of coping with a variety of social problems. The scientific methodology required for accurate analysis is emphasized. Topics will be taken from a range of possible items such as problems of aging, health care needs, mental illness, environmental issues, labor force conditions, gender and sexuality, poverty, crime, juvenile delinquency, suicide, addiction, abuse, migration and relations with minority groups, or membership in deviant subcultures. CSU, UC

SOCIO-131  The Urban Community
3 units  SC
   • 54 hours lecture per term
   • Recommended: Eligibility for ENGL 122 or equivalent
A multicultural look at social change in cities and in the suburbs which examines the experience of African-Americans, Latinos, Asian Pacific-Americans, Native Americans and Euro-Americans, currently and in historical perspective. The course addresses challenge that face people in multicultural communities, neighborhoods and suburbs, and examines programs and strategies that are designed to meet these challenges in US cities and suburbs. CSU, UC

SOCIO-135  Patterns of Ethnic Culture in America
3 units  SC
   • 54 hours lecture per term
   • Recommended: Eligibility for ENGL 122 or equivalent
   • Note: This course fulfills the American Cultures requirement at UC Berkeley
The sociological analysis of ethnic cultures in the United States. Topics include political, economic, religious, judicial, and familial organization of ethnic communities, the effects of the dominant society on these institutions and recent socio-political movements. CSU, UC
### SPANISH – SPAN

**SPAN-231 Sixth Term Spanish**

3 units SC

- 54 hours lecture per term
- Recommended: SPAN 230 or equivalent

This is an advanced Spanish language course emphasizing more complex reading, writing, listening, and speaking skills. The rich Hispanic heritage is explored through a wide range of materials including short stories, articles, poems, films, and documentaries. CSU, UC

### STEAMFITTING – STMFT

**STMFT-116 Pipe Shop II**

1.5-2.5 units LR

- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
- Formerly STMFT 270

Related technical instruction, supplementary to the apprentice's on-the-job training. Student will be introduced to basic isometric drawing and basic steam systems. Copper connections will be made with solder and brazing procedures. CSU

**STMFT-120 Instrumentation 1**

1.5-2.5 units LR

- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
- Formerly STMFT 273

Related technical instruction, supplementary to the apprentice's on-the-job training. Instrumentation 1 includes basic descriptions of processes, loop diagrams and documentation in the instrumentation field. CSU

**STMFT-121 Instrumentation 2**

1.5-2.5 units LR

- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
- Formerly STMFT 274

Related technical instruction, supplementary to the apprentice's on-the-job training. Instrumentation 2 will give the students the knowledge of pneumatic controls, liquid level instruments, analyzers and fiber optic signals. CSU

**STMFT-122 Steam Systems**

1.5-2.5 units LR

- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
- Formerly STMFT 275

Related technical instruction, supplementary to the apprentice's on-the-job training. Introduction to the properties of saturated steam, traps, boilers and heating systems. CSU

**STMFT-123 Electricity for Steamfitting**

1.5-2.5 units LR

- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
- Formerly STMFT 276

The specialized knowledge and techniques required to make electrical systems operate and function properly for the steamfitter working in the instrumentation field. CSU

**STMFT-124 Industrial Rigging**

1.5-2.5 units LR

- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
- Formerly STMFT 277

Related technical instruction, supplementary to the apprentice's on-the-job training. Students will be able to identify safe work habits to use with industrial rigging. Load limits, crane ratings, equipment storage and handling are all covered. CSU

**STMFT-125 Beginning AutoCAD**

1.5-2.5 units LR

- Variable hours
- Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
- Formerly STMFT 260

Introductory course covering the computer application AutoCAD as it relates to the creation of technical drawings. Course covers two dimensional computer aided drafting of objects in orthographic projection. Hands-on training utilizing a comprehensive overview of the software package and its applications in pipe drafting is stressed. Students are recommended to have a basic knowledge of technical drawing. CSU
STMFT-126 Advanced AutoCAD
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
• Formerly STMFT 271

Course is designed for students with previous knowledge and experience in using AutoCAD. Course covers surface/wireframe and solid modeling features of AutoCAD for 3-dimensional modeling and photo realistic rendering, customization and optimal application of AutoCAD and utility options for presentation purposes and project management. CSU

STMFT-127 Pumps
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
• Formerly STMFT 278

Related technical instruction, supplementary to the apprentice’s on-the-job training. Student will review the different types, installation, operation and maintenance of industrial pumps. CSU

STMFT-128 Tube Bending
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
• Formerly STMFT 279

Related technical instruction, supplementary to the apprentice’s on-the-job training. Students will complete projects related to tube bending and installations. Several tubing connection assignments will assist the student in recognizing different tubing connectors. CSU

STMFT-131 Pipe Welding 1
1.5-2.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
• Formerly STMFT 261

The techniques and methods for beginning welding processes for the steamfitting apprentice. Safe procedures and practices for use of cutting torch. Introduction of groove pipe welding. CSU

STMFT-132 Welding 5
1.5-3.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
• Formerly STMFT 262

The techniques and methods for welding processes for the steamfitting apprentice. Students will learn to identify various welding rods and their applications.

STMFT-133 Welding 6
1.5-3.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
• Formerly STMFT 263

The techniques and methods for welding processes for the steamfitting apprentice. Techniques studied will include string beads on an open grooved pipe weld and proper torch positioning for advanced torch cutting.

STMFT-134 Welding 7
1.5-3.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
• Formerly STMFT 264

The techniques and methods for welding processes for the steamfitting apprentice. Topics will include proper handling of grinders, identification of hazards and an introduction to square groove welding processes.

STMFT-135 Welding 8
1.5-3.5 units LR
• Variable hours
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.
• Formerly STMFT 265

The techniques and methods for welding processes for the steamfitting apprentice. Techniques studied will include single vee groove coupons in various positions.
STMFT-136  Welding 9  
1.5-3.5 units LR  
• Variable hours  
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.  
• Formerly STMFT 266  
The techniques and methods for welding processes for the steamfitting apprentice. Topics will include identification of trapped slag using an x-ray image, as well as completing a root bead in a welding coupon in 6G position. CSU

STMFT-137  Welding 10  
1.5-3.5 units LR  
• Variable hours  
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.  
• Formerly STMFT 267  
The techniques and methods for welding processes for the steamfitting apprentice. Topics will include identification of materials and tools needed for stainless steel welding processes, and both location and repair of welding defects on carbon steel pipe. CSU

STMFT-140  Construction Management in Steamfitting  
1.5-2.5 units LR  
• Variable hours  
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.  
• Formerly STMFT 272  
An introduction to the administrative procedures, plans and specifications, scheduling and other forms of communication in the construction field. CSU

STMFT-150  Topics in Steamfitting  
.3-4 units SC  
• May be repeated three times  
• Variable hours  
• Note: This program is sponsored by the International Brotherhood of Steamfitters and Plumbers and is for apprenticeship only. Course enrollment is limited to those who have been accepted by the local union responsible for the section.  
A supplemental course in Steamfitting to provide a study of current concepts and problems in Steamfitting and related subdivisions. Specific topics will be announced in the schedule of classes.