### Accounting

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<th>Course Code</th>
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<th>Units</th>
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<tr>
<td>ACCT 1A</td>
<td>Financial Accounting I</td>
<td>5</td>
<td>Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.</td>
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<tr>
<td>ACCT 1B</td>
<td>Financial Accounting II</td>
<td>5</td>
<td>Prerequisite: Accounting 1B. Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent. Five hours lecture (60 hours total per quarter).</td>
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<tr>
<td>ACCT 1C</td>
<td>Managerial Accounting</td>
<td>5</td>
<td>Prerequisite: Accounting 1B. Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent. Five hours lecture (60 hours total per quarter). Study the role of management accounting information in organizations for operational control, product and customer costing, and performance measurement.</td>
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<tr>
<td>ACCT 51A</td>
<td>Intermediate Accounting</td>
<td>5</td>
<td>Prerequisite: Accounting 1B. Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent. Five hours lecture (60 hours total per quarter). Principles, control, and theory of accounting for assets, financial statements, cash and cash flows, receivables, inventories, plant and equipment, intangible assets.</td>
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<tr>
<td>ACCT 51B</td>
<td>Intermediate Accounting</td>
<td>5</td>
<td>Prerequisite: Accounting 1B. Advisory: Accounting 51A. Five hours lecture (60 hours total per quarter). Principles, control, and theory of accounting for liabilities and equities, corporations, accounting changes, statements from incomplete records, price level and fair-value accounting.</td>
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<tr>
<td>ACCT 52</td>
<td>Advanced Accounting</td>
<td>5</td>
<td>Prerequisite: Accounting 1B. Advisory: Accounting 51B. Five hours lecture (60 hours total per quarter). Presents financial accounting theories and practices related to business combinations and consolidated financial reporting. This includes the development of complex business structures and forms of business combinations; consolidated financial reporting for intercorporate acquisitions and operations; and the accounting for transactions of affiliated companies. Also includes accounting and reporting issues in the multinational business environment. Accounting theory and practice related to the formation, operation and liquidation of partnerships is covered.</td>
</tr>
<tr>
<td>ACCT 58</td>
<td>Auditing</td>
<td>5</td>
<td>Prerequisite: Accounting 51A and 51B. Co-requisite: Accounting 58 students may also enroll in Accounting 51B concurrently. Five hours lecture (60 hours total per quarter). Study of environment, principle, and practices of financial statement audit. Topics include Generally Accepted Auditing Standards (GAAS), Sarbanes-Oxley Act 2002 regulatory requirements, internal controls and audit risk; audit planning, procedures, evidence, documentation and reports.</td>
</tr>
<tr>
<td>ACCT 64</td>
<td>Payroll and Business Tax Accounting</td>
<td>3</td>
<td>Prerequisite: Accounting 1A. Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 212 or equivalent. Three hours lecture (36 hours total per quarter). Fundamentals of payroll accounting using manual and computerized accounting systems. Theoretical and practical aspects of payroll accounting and reporting. Course includes Federal and California payroll tax rules and forms.</td>
</tr>
<tr>
<td>ACCT 66</td>
<td>Cost Accounting</td>
<td>5</td>
<td>Prerequisite: Accounting 1B. Five hours lecture (60 hours total per quarter). Procedures, practices, and fundamentals used by accountants when costing products or services, evaluating and measuring performances, and reporting results to users of accounting information.</td>
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<tr>
<td>ACCT 67A</td>
<td>Federal Income Tax</td>
<td>4</td>
<td>(Formerly Accounting 67.) Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 210 or equivalent; Accounting 1A (may be taken concurrently). (Also listed as Business 67A. Students may enroll in either department, but not both, for credit.) Four hours lecture (48 hours total per quarter). A study of current federal income tax law and the procedures for preparing an individual's tax return.</td>
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<tr>
<td>ACCT 67B</td>
<td>Advanced Tax Accounting I</td>
<td>4</td>
<td>(Formerly Accounting 68A.) Advisory: Accounting 67A or Business 67A. (Also listed as Business 67B. Students may enroll in either department, but not both, for credit.) Four hours lecture (48 hours total per quarter). A study of current federal income tax law and California income tax law as it relates to individuals and sole proprietorships.</td>
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<tr>
<td>ACCT 68</td>
<td>Advanced Tax Accounting II</td>
<td>4</td>
<td>(Formerly Accounting 68B.) Advisory: Accounting 1A. Four hours lecture (48 hours total per quarter). A study of current federal income tax law as it relates to corporations, partnerships, estates, trusts, and gift taxes. California tax law differences will be highlighted.</td>
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<tr>
<td>ACCT 75</td>
<td>Accounting for Government and Nonprofit Entities</td>
<td>5</td>
<td>Prerequisite: Accounting 1B. Advisory: Accounting 1C. Five hours lecture (60 hours total per quarter). Presents the characteristics and principles of the financial policies and procedures followed by state, county and municipal governments, as well as public and private universities and hospitals, and certain nonprofit organizations. The course will emphasize the importance to governmental agencies of properly discharging their responsibilities to taxpayers. These responsibilities include the proper accounting for and budgeting of tax and related revenues and expenditures. The course will also emphasize the importance to nonprofit entities of meeting the financial reporting and management needs of various stakeholders such as donors, service providers and recipients, community members, and regulatory agencies. Funds, fund accounting, and the newest GASB and FASB pronouncements relating to accounting for governmental and nonprofit entities are also presented.</td>
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<tr>
<td>ACCT 76</td>
<td>Nonprofit Management Control</td>
<td>5</td>
<td>Prerequisite: Accounting 1C. Five hours lecture (60 hours total per quarter). Presents theories and practices of fiscal and management control in nonprofit organizations. Includes management control principles as related to nonprofit financial statements as well as the utilization of cost accounting techniques in the nonprofit sector. Covers control system elements such as strategic planning, budgeting, operational control, output measurement, performance reporting, and program evaluation. Relates nonprofit management control to the broader organizational context.</td>
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<tr>
<td>ACCT 86</td>
<td>Computer Accounting Systems</td>
<td>5</td>
<td>Prerequisite: Accounting 1A. Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273. (Also listed as Computer Information Systems 86. Students may enroll in either department, but not both, for credit.) Five hours lecture (60 hours total per quarter). Fundamentals of computerized accounting using integrated general ledger software packages and electronic spreadsheet software. Conversion of a manual system to a computer system.</td>
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</table>
ACCT 87AH Computerized Accounting Programs I 2 Units
(Peachtree - Windows)
Prerequisite: Accounting 1A.
Four hours lecture-laboratory (48 hours total per quarter).
Introduction to computerized accounting for service industry. Applications include
general ledger setup, accounts payable, accounts receivable and payroll. Course
will take advantage of new accounting software being used in industry.

ACCT 87AI Computerized Accounting Programs I 2 Units
(Quickbooks)
Prerequisite: Accounting 1A.
Four hours lecture-laboratory (48 hours total per quarter).
Introduction to computerized accounting for service industry. Applications include
general ledger setup, accounts payable, accounts receivable and payroll. Course
will take advantage of new accounting software being used in industry.

ACCT 87AJ Computerized Accounting Programs I 2 Units
(Microsoft Dynamics GP)
Prerequisite: Accounting 1A.
Four hours lecture-laboratory (48 hours total per quarter).
Introduction to computerized accounting for service industry. Applications include
general ledger setup, accounts payable, accounts receivable and payroll. Course
will take advantage of new accounting software being used in industry.

ACCT 88 Excel Spreadsheets for Accounting 2 Units
Prerequisite: Accounting 1A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200),
or English as a Second Language 261, 262 and 263; Mathematics 212 or
equivalent; Computer Applications and Office Systems 93AH or 93AK or 93AL.
Two hours lecture (24 hours total per quarter).
Fundamentals of electronic spreadsheets using Microsoft Excel software.
Concentration on solving accounting problems and completing accounting
projects with Excel.

ACCT 98U Internship, Business/Computer Systems Division 1 Unit
Prerequisite: Accounting 1A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200),
or English as a Second Language 261, 262 and 263; Mathematics 212 or
equivalent; Computer Applications and Office Systems 93AH or 93AK or 93AL.
Two hours lecture (24 hours total per quarter).
Students will take advantage of new accounting software being used in industry.

ACCT 98Y 5 Units
ACCT 98Z 6 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211),
or English as a Second Language 272 and 273.
(Also listed as Business 98U-Z, Computer Applications and Office Systems 98U-Z,
and Computer Information Systems 98U-Z. Students may enroll in only one
department for credit.)
Four hours laboratory per unit of supervised internship in an authorized office or
agency (48 hours total for each unit of credit per quarter).
(Any combination of Accounting 98U-Z, Business 98U-Z, Computer Applications
and Office Systems 98U-Z, and Computer Information Systems 98U-Z may be
taken up to six times, not to exceed 18 units, for credit. During each internship,
students will be placed at different employer locations, different working
environments, and/or given different assignments within the same company
or department—thus providing the students with various opportunities to learn
different skills. Students may repeat the same internship location and working
environment if the student, employer, and instructor believe it would provide
the student with increased work experience.)
Off-campus supervised experiential education/internship for Business/Computer Systems
Division students in research or business office environments related to
student's major. Practical application of knowledge, skills and abilities acquired in
student's major. Opportunity for additional hands-on training. Exposure to varied
corporate, state and federal protocols, methodologies and practices in a
professional environment.

ACCT 105 Basic Financial Accounting Procedures 1 Unit
Advisory: English Writing 200 and Reading 200 (or Language Arts 200),
or English as a Second Language 261, 262 and 263; Accounting 1A.
One hour lecture (12 hours total per quarter).
Procedural aspects of accounting; including the accounting equation, analysis
of business transactions, debit and credit rules, and aspects of the accounting cycle.

Administration of Justice

ADMJ 1 Introduction to Administration of Justice 4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211),
or English as a Second Language 272 and 273.
(Also listed as Political Science 10. Students may enroll in either department, but
not both, for credit.)
Four hours lecture (48 hours total per quarter).
The history and philosophy of the administration of justice in America. A study of the
overall system from its European antecedents and development within the United
States; identification of various subsystems and components; their role expectations
and interrelationships; basic premise of crime, punishment and rehabilitation;
the role of education in the administration of justice within a democracy.

ADMJ 3 Concepts of Criminal Law (CP 2) 4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211),
or English as a Second Language 272 and 273.
(Also listed as Paralegal 3 and Political Science 13. Students may enroll in only
one department for credit.)
Four hours lecture (48 hours total per quarter).
Principles of the criminal law; history of the common law; sources of law;
classification of crimes; and the legal system. The relationship between law and
social change in cross-cultural settings. Analysis of legislation, case law, the process of
conflict resolution and legal institutions as they relate to social change.

ADMJ 5 Community Relations 4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211),
or English as a Second Language 272 and 273.
(Also listed as Paralegal 11 and Political Science 11. Students may enroll in only
one department for credit.)
Four hours lecture (48 hours total per quarter).
Federal court procedure and the impact of U.S. Constitutional law on federal and
state law. Read and analyze the Constitution. Effect of U.S. Supreme Court cases
on current constitutional interpretation.

ADMJ 25 Law and Social Change 4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211),
or English as a Second Language 272 and 273.
(Also listed as Paralegal 25 and Sociology 25. Students may enroll in only one
department for credit.)
Four hours lecture (48 hours total per quarter).
Exploration of the use of law as an instrument for social change. Examination of
relationship between law and social change in cross-cultural settings. Analysis of
legislation, case law, the process of conflict resolution and legal institutions as
they relate to social change.

ADMJ 29 Cultural Pluralism and American Law 4 Units
(Formerly Administration of Justice 58.)
(See general education pages for the requirement this course meets.)
Advisory: English Writing 1A or English as a Second Language 5.
(Also listed as Intercultural Studies 29. Students may enroll in either department,
but not both, for credit.)
Four hours lecture (48 hours total per quarter).
An interdisciplinary study of marginalized peoples and their relationship to
the law. Examines the legal perspectives on cultural diversity in the United States,
including race, ethnicity, gender, class, religious background, disability, and sexual
orientation. Analyzes how these groups interact with mainstream society through
American law, concentrating on both historical and contemporary state and federal
legislation and court rulings. Analyzes how the courts play a role in determining
the status of minority groups.

ADMJ 50 Crime, Correction and Society 4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211),
or English as a Second Language 272 and 273.
(Also listed as Sociology 50. Students may enroll in either department, but not
both, for credit.)
Four hours lecture (48 hours total per quarter).
A legal and sociological approach to understanding the fundamental ideas which
have shaped correctional theories and practices. An in-depth study of adult
sentencing, prisons, and jails subsystem including institutions by type and function,
probation, parole and community based programs. A comprehensive examination of
current correctional practices, punishment, rehabilitation, and community treatment
programs with an emphasis on issues concerning race, ethnicity and gender.
ADMJ 51  Women in Crime  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
(Also listed as Sociology 51. Students may enroll in either department, but not both, for credit.)
Four hours lecture (48 hours total per quarter).
An examination of the changing role of women in crime with emphasis on gender and cultural based differences related to victims, offenders and criminal justice professionals.

ADMJ 53  Criminal Law II  5 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Five hours lecture (60 hours total per quarter).
An advanced course in criminal law emphasizing substantive California statutory criminal codes.

ADMJ 54  Youth and the Law  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
(Also listed as Paralegal 54 and Sociology 54. Students may enroll in only one department for credit.)
Four hours lecture (48 hours total per quarter).
A legal and sociological approach to understanding the causes of juvenile delinquency; an examination of race, culture and gender in juvenile delinquency; community responses to delinquency; organization, functions and jurisdiction of both social and legal agencies; processing and detention; case disposition; statutes and court procedures.

ADMJ 55  Alcohol, Narcotics and Drug Abuse  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture (48 hours total per quarter).
Designed to equip public service workers and the community with knowledge of the issues involved in drug abuse, including the history and classification of drugs and the problems facing society and the governing of illegal drug use.

ADMJ 56  Practical Writing for Administration of Justice  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture (48 hours total per quarter).
Designed to acquaint the student with important developments, techniques and applications in the art and science of report writing for criminal justice professionals.

ADMJ 60  Patrol Procedures  4 Units
Prerequisite: Administration of Justice 75.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture (48 hours total per quarter).
Responsibilities, techniques, and methods of police patrol. Practical experience in law enforcement techniques.

ADMJ 61  Criminal Investigation  4 Units
Prerequisite: Administration of Justice 3 or 75.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture (48 hours total per quarter).
Fundamentals of crime investigation; techniques of crime scene search and recording; collection and preservation of physical evidence; use of scientific aids; modus operandi processes; sources of information; interviewing techniques.

ADMJ 62  Sexual Assault, Police and Community Response  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
(Also listed as Psychology 63. Students may enroll in either department, but not both, for credit.)
Four hours lecture (48 hours total per quarter).
Societal and psychological aspects of sexual assault, the perpetrators and the victims; practical application of the police investigation, the criminal justice process, and social service intervention.

ADMJ 64  Administration of Justice Internship  1 Unit
ADMJ 64X  2 Units
ADMJ 64Y  3 Units
ADMJ 64Z  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours per week per unit of supervised internship in an authorized office or agency (48 hours total for each unit of credit per quarter).
(Any combination of Administration of Justice 64, 64X, 64Y and 64Z may be taken up to six times, not to exceed 18 units, for credit.)
Program of work experience and study in law enforcement, corrections/probation, private security or human services under the supervision of the instructor and agency personnel.

ADMJ 69  Administration of Justice Field Trips  1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours lecture-laboratory (36 hours total per quarter).
(May be taken up to two times for credit, as long as different subject matter is addressed each time.)
A survey of current conditions in law enforcement, probation, and corrections and visits to adult or juvenile detention and correctional facilities in Northern California.

ADMJ 73  Crime and Criminology  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
(Also listed as Sociology 73. Students may enroll in either department, but not both, for credit.)
Four hours lecture (48 hours total per quarter).
Introduction to major types of crime and criminal behavior, examining demographics and measurement of crime, theories of causation and victimization, crime prevention and crime control.

ADMJ 74A  Interviewing, Interrogation and Crisis Intervention  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
(Also listed as Paralegal 74A and Psychology 74A. Students may enroll in only one department for credit.)
Four hours lecture (48 hours total per quarter).
Theories, principles and strategies of tactical and interpersonal communication necessary to interview victims, witnesses, and suspects; crisis intervention strategies for victims and witnesses of crime; communication with individuals from diverse backgrounds with consideration to race, ethnicity, gender, age and special needs.

ADMJ 75  Principles and Procedures of the Justice System  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
(Also listed as Paralegal 75 and Political Science 75. Students may enroll in only one department for credit.)
Four hours lecture (48 hours total per quarter).
Procedures followed by law enforcement and courts in criminal cases; constitutional principles governing those procedures.

ADMJ 78  Correctional Investigation  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture (48 hours total per quarter).
History and development of probation and parole systems, including current practice at the Federal, State and local levels. Investigation techniques needed for preparation of pre-sentence investigation reports, use of these reports in the courts, probation and parole supervision, and correctional institutions.

ADMJ 90A  Legal Aspects of Evidence (CP 4)  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
(Also listed as Paralegal 90A. Students may enroll in either department, but not both, for credit.)
Four hours lecture (48 hours total per quarter).
The origin, development, and content of the rules of evidence; kinds of degrees of evidence and rules governing admissibility of evidence.

ADMJ 95  Overview of American Law  4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
(Also listed as Paralegal 95 and Political Science 95. Students may enroll in only one department for credit.)
Four hours lecture (48 hours total per quarter).
Overview of the major substantive areas of American law: Agency, contracts, constitutional law, corporations, criminal law, family law, property, torts, wills and estates.

ADMJ 161  Computer Forensics  4 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263: Computer Applications and Office Systems 150A or equivalent; Computer Applications and Office Systems 102L or equivalent.
(Also listed as Computer Applications and Office Systems 161 and Computer Information Systems 161. Students may enroll in only one department for credit.)
Three hours lecture, two hours lecture-laboratory (60 hours total per quarter).
Pass-No Pass (P-NP) course.
Introduction to computer crime investigation processes. Guides students to becoming computer forensics investigators who can acquire and analyze data from a computer to be used as evidence. Topics include computer forensics tools, data recovery and retrieval, information gathering techniques, computer data preservation techniques, and computer crime investigation techniques. System Administrators, IT Managers, and Law Enforcement Officers, would benefit from taking this course as well as individuals wanting to become Computer Forensics Consultants.

All courses are for unit credit and apply to a De Anza associate degree unless otherwise noted.
Aerospace Studies  
(For information on Air Force ROTC courses, please see Military Studies.)

Anthropology

ANTH 1  
Physical Anthropology  4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
Biological structure and evolution of primates with particular emphasis on Homo sapiens as a culture-bearing animal. Relationships between human and non-human primates; genetic, physical, and cultural variations in living human groups; social organization and gender roles in primate and human societies; and considerations of future human evolution.

ANTH 1L  
Physical Anthropology Laboratory  1 Unit  
(See general education pages for the requirement this course meets.)  
Prerequisite: Completion of or concurrent enrollment in Anthropology 1.  
Three hours laboratory (36 hours total per quarter).  
Laboratory course in which the students apply and practice the scientific methods, techniques and procedures used by physical anthropologists to understand human evolution, non human primates and human variation. Students gain practical experience and a deeper understanding by participating in lab exercises, activities and experiments that explore human evolution, osteology, forensics, genetics, modern human variation, primate anatomy and behavior.

ANTH 2  
Cultural Anthropology  4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
The anthropological approach to the study of human behavior from a cross-cultural, comparative perspective. An exploration into the languages, subsistence, economics, sociopolitical systems, religions, and world views of diverse world cultures. An assessment of the dynamics of culture change and the future prospects for humanity.

ANTH 3  
Introduction to Archeology  4 Units  
(Formerly Anthropology 55.)  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
Introduction to the field of archeology within the discipline of anthropology including discussion of scientific methods, the history of archeology, field and laboratory methods used in the analysis of archaeological data, and theories used to interpret the past. This course explores how archeologists recover, analyze material and reconstitute ancient cultures and societies. Archaeological ethics and real-world issues concerning looting, collecting, preservation, and the role of indigenous peoples will be examined.

ANTH 4  
World Prehistory  4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
Worldwide patterns of cultural transformation, from the earliest foraging societies to the development of agrarian states. The prehistoric interpretation of these changes based upon the comparison of archaeological evidence from Africa, Asia, Europe, the Middle East, the Americas, and Oceania.

ANTH 6  
Linguistic Anthropology  4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
A cross-cultural investigation into the relationship between language and culture: language as a human attribute; language structure, historical origins, diversification, and changes; gender and cultural variations in language usage; comparative analysis and classification of world languages; the origins and development of writing; microelectronics and the advent of the information age; globalization and language.

ANTH 69  
Early Childhood Education Principles and Practices (Cross-Cultural Emphasis)  3 Units  
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.  
(Also listed as Child Development 69. Students may enroll in either department, but not both, for credit.)  
Three hours lecture (36 hours total per quarter).  
The underlying principles of early education, in which national, state, and local practices will be examined in contrast to options presented through ethnographic data of diverse cultures.

Arabic Language

ARBC 1  
Elementary Arabic (First Quarter)  5 Units  
(Formerly Arabic 91.)  
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.  
Five hours lecture (60 hours total per quarter).  
Introduction to the language and cultures of the Arabic-speaking world. Development and practice of elementary speaking, listening, reading, and writing skills in targeted language functions with Arabic as the primary language of instruction. Introduction to basic geographical, historical and cultural aspects of Arabic-speaking world areas. Language laboratory practice will be part of the regular instruction to reinforce pronunciation, grammar, syntax, and conversation.

ARBC 2  
Elementary Arabic (Second Quarter)  5 Units  
(Formerly Arabic 92.)  
Prerequisite: Arabic 1 (equivalent to one year of high school Arabic) or equivalent.  
Five hours lecture (60 hours total per quarter).  
Continuation of elementary speaking, listening, reading, and writing skills in targeted language functions, with Arabic as the primary language of instruction. Focus on greater structural accuracy and communicative competence. Study of basic geographical, historical, and cultural features of Arabic-speaking world areas.

ARBC 3  
Elementary Arabic (Third Quarter)  5 Units  
(Formerly Arabic 93.)  
Prerequisite: Arabic 2 (equivalent to two years of high school Arabic) or equivalent.  
Five hours lecture (60 hours total per quarter).  
Continuation of elementary speaking, listening, reading, and writing skills in targeted language functions, with Arabic as the primary language of instruction. Focus on greater structural accuracy and communicative competence. Study of basic geographical, historical, and cultural features of Arabic-speaking world areas.

ARBC 4  
Intermediate Arabic (First Quarter)  5 Units  
(Formerly Arabic 94.)  
Prerequisite: Arabic 3 (equivalent to three years of high school Arabic) or equivalent.  
Five hours lecture (60 hours total per quarter).  
Reading and discussion of texts dealing with the literature, arts, geography, history, and culture of the Arabic-speaking world. Review of the linguistic functions and grammar structures of first-year Arabic. Emphasis is placed on the functional usage of Arabic and communication in context in the four language skills: reading, writing, speaking and listening.

ARBC 5  
Intermediate Arabic (Second Quarter)  5 Units  
(Formerly Arabic 95.)  
Prerequisite: Arabic 4 (equivalent to four years of high school Arabic) or equivalent.  
Five hours lecture (60 hours total per quarter).  
Continuation of Intermediate Arabic. Reading and discussion of texts dealing with the literature, arts, geography, history, and culture of the Arabic-speaking world. Review of the linguistic functions and grammar structures of first-year Arabic. Emphasis is placed on the functional usage of Arabic and communication in context in the four language skills: reading, writing, speaking and listening.

ARBC 6  
Intermediate Arabic (Third Quarter)  5 Units  
(Formerly Arabic 96.)  
Prerequisite: Arabic 5 or equivalent.  
Five hours lecture (60 hours total per quarter).  
Continuation of Intermediate Arabic. Reading and discussion of texts dealing with the literature, arts, geography, history, and culture of the Arabic-speaking world. Review of the linguistic functions and grammar structures of first-year Arabic. Emphasis is placed on the functional usage of Arabic and communication in context in the four language skills: reading, writing, speaking and listening.

Army Reserve Officers Training Corps

(ROTC) For information on Army ROTC, please see Military Studies.

Arts

ARTS 1A  
Introduction to the Visual Arts  4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
An exploration of visual imagery throughout the world, for the purpose of refining visual literacy skills. Works of art will be studied by means of formal analysis and the social experiences of artists, the function of works of art in their original environment, and comparison of works from different cultures. Primary emphasis will be on paintings, graphic works, and sculpture.
ARTS 1B Architecture Past and Present 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
An exploration of architecture throughout the world, for the purpose of refining visual literacy skills. Artistic traditions of architecture will be studied comparatively with regard to form and function, and numerous architectural concepts will be examined.

ARTS 2A History of Art (Europe from Prehistory through Early Christianity) 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
An introduction to the discipline of art history through analysis of images, objects, and works of architecture produced from the prehistoric period of European history through approximately the year 600 C.E., including discussion of Stone Age, Mesopotamian, Egyptian, Greek, Etrurian, Roman, and Byzantine cultures.

ARTS 2B History of Art (Europe During the Middle Ages and the Renaissance) 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
An introduction to the discipline of art history through analysis of images, objects, and works of architecture produced from approximately 600 through 1600 C.E., including discussion of Islamic and European cultures during the Middle Ages, and the art of the Renaissance (including Manerism) in both northern and southern Europe.

ARTS 2C History of Art (Europe from the Baroque Period through Impressionism) 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
An introduction to the discipline of art history through analysis of images, objects, and works of architecture produced in Europe from c. 1600 through the 1880s, including discussion of both northern and southern European cultures.

ARTS 2D History of Art (Europe and the United States from Post-Impressionism to the Present) 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
An introduction to the discipline of art history through analysis of images, objects, and works of architecture produced from the 1880s to the present, including discussion of numerous European and American cultural groups.

ARTS 2F History of Art (Multicultural Arts in the United States) 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
(Also listed as Intercultural Studies 5. Students may enroll in either department, but not both, for credit.)  
Four hours lecture (48 hours total per quarter).  
A cross-cultural introduction to American art history which includes interdisciplinary analysis of diverse art forms generated by artists of color, including African Americans, Asian Americans, Native Americans, Latina(o)s/Chicana(o)s, and Americans of non-European heritage. Significant attention will be given to issues considered important by each ethnicity or group as well as issues related to racism, gender, and social class. Traditions, values, and cultural expressions of diverse societies and their contributions to American visual culture are explored.

ARTS 2G History of Art (Arts of Asia) 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
(Also listed as International Studies 10. Students may enroll in either department, but not both, for credit.)  
Four hours lecture (48 hours total per quarter).  
A general introduction to art through major Asian artistic traditions. Focuses upon paintings, sculptures, ceramics, and architecture and their religious, cultural, historical, and social contexts. Examines arts from China, Japan, India, Central Asia, Himalayas, and Southeast Asia and assesses the contributions of Asian art in a global context.

ARTS 2H History of Art: Native Arts of Mesoamerica and South America 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
(Also listed as International Studies 21. Students may enroll in either department, but not both, for credit.)  
Four hours lecture (48 hours total per quarter).  
A general introduction to the visual arts of the indigenous cultures of Mesoamerica, an area extending from northern Mexico through Central America, and the Andean region of South America. This course covers diverse art forms, including architecture, ceramics, painting, sculpture, and their religious, social, economic, and political contexts of the art will be explored. Compares indigenous arts of the Americas to other world art traditions and assesses the contributions of indigenous cultures in a global context.

ARTS 2J History of Art: Indigenous Arts of the World 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
(Also listed as International Studies 22. Students may enroll in either department, but not both, for credit.)  
Four hours lecture (48 hours total per quarter).  
A general introduction to some of the many indigenous art traditions around the world, with emphasis placed upon traditional arts created for use in small-scale communities from the Americas, South Pacific region and Africa. Diverse art forms covered will include sculpture, painting, performance, ceramics, textiles and architecture from antiquity through the colonial period to the present. Topics addressing the religious, cultural, social, economic and political contexts of the art will be explored. Compares arts from indigenous peoples to other world art traditions and assesses the contributions of indigenous arts in a global context.

ARTS 2K History of Art: Visual Arts of Islam 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
(Also listed as International Studies 23. Students may enroll in either department, but not both, for credit.)  
Four hours lecture (48 hours total per quarter).  
An exploration of the visual arts of Islam in a global context, including comparative analysis of the arts from diverse regions of the Islamic world. Examines artistic traditions of calligraphy, miniature painting, textiles, decorative arts and architecture from the beginnings of the Islamic faith to the present, and Islamic contributions to world art history. Includes interdisciplinary analysis of Islamic visual arts, emphasizing the cultural and religious contexts, as well as issues related to gender and social class.

ARTS 2L History of Art: Visual Arts of Africa 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
(Also listed as International Studies 24. Students may enroll in either department, but not both, for credit.)  
Four hours lecture (48 hours total per quarter).  
A general introduction to the visual arts of Africa, covering diverse art forms, including sculpture, painting, performance, ceramics, textiles and architecture from antiquity through the colonial period to the present. Topics addressing the religious, cultural, social, economic and political contexts of the art will be explored. Compares arts from Africa to other world art traditions and assesses the contributions of African arts in a global context.

ARTS 3TC Women and Art 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
(Also listed as Women's Studies 3C. Students may enroll in either department, but not both, for credit.)  
Four hours lecture (48 hours total per quarter).  
A history of women in relation to society and the visual arts from prehistory to the present. Social perceptions and obstacles relevant to women artists will be discussed, and students will engage in cross-cultural comparison of works produced in western and non-western cultures made by women, and in which women serve as subject matter.

ARTS 3TD American Art: Public and Private 4 Units  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.  
Four hours lecture (48 hours total per quarter).  
An introduction to the discipline of art history through analysis of art in the United States which emphasizes discussion of paintings, sculpture, and works of architecture produced for both public and private purposes, from the seventeenth century to the present day.

ARTS 3TE Today's Working Artist 4 Units  
(See general education pages for the requirement this course meets.)  
Co-requisite: Arts 3TE students must also enroll in Arts 3TEL.  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture (48 hours total per quarter).  
Focuses on the issues and challenges facing today's working artists. Topics include: the roots of international contemporary art, ethical and current art practices, and the essential components for assembling a dynamic portfolio presentation. Students will participate in assigned projects requiring both theoretical analysis and hands-on studio work.

ARTS 3TEL Art History Laboratory 1 Unit  
(See general education pages for the requirement this course meets.)  
Co-requisite: Arts 3TEL students must also enroll in Arts 3TE.  
Three hours laboratory (36 hours total per quarter).  
Pass-No Pass (P-NP) course.  
Utilization of studio equipment and materials related to projects assigned in Arts 3TE.

All courses are for unit credit and apply to a De Anza associate degree unless otherwise noted.
ARTS 4A
Beginning Drawing 3 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Arts 8.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 4A, 4B, 4C and 4D may be taken up to six times, not to exceed 18 units, for the family of courses.)
An introductory course exploring the basic elements and principles of observational drawing, using traditional and experimental media.

ARTS 4B
Intermediate Drawing 3 Units
Prerequisite: Arts 4A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Arts 8.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 4A, 4B, 4C and 4D may be taken up to six times, not to exceed 18 units, for the family of courses.)
An intermediate drawing course focusing on the creative interpretation of subject matter utilizing a variety of experimental, as well as traditional, techniques and media.

ARTS 4C
Life Drawing 3 Units
Prerequisite: Arts 4A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Arts 4B, 4D and 8.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 4A, 4B, 4C and 4D may be taken up to six times, not to exceed 18 units, for the family of courses.)
A beginning drawing course focusing on the representation and interpretation of the human figure, with attention to drawing from life.

ARTS 4D
Representational Drawing 3 Units
(Formerly Arts 74.)
Prerequisite: Arts 4A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Arts 4B, 4D and 8.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 4A, 4B, 4C and 4D may be taken up to six times, not to exceed 18 units, for the family of courses.)
A foundation course in the use of fundamental design elements and principles for two-dimensional art.

ARTS 8
Two-Dimensional Design 3 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Arts 4B, 4D and 8.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 4A, 4B, 4C and 4D may be taken up to six times, not to exceed 18 units, for the family of courses.)
A foundation course in the use of fundamental design elements and principles for two-dimensional art.

ARTS 10A
Three-Dimensional Design 3 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit.)
Introduction to design elements and principles as they apply to three-dimensional space and form. Idea exploration in various media, including wire, clay, plaster, paper, wood, metal, and found objects.

ARTS 10B
Intermediate Three-Dimensional Design 3 Units
Prerequisite: Arts 10A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 10A, 10B and 10C may be taken up to six times, not to exceed 18 units, for the family of courses.)
Further exploration and continuation of three-dimensional design focusing on individual projects. Use of various materials including wood, metal, plastic sheet and resin. Introduction of mold making and casting.

ARTS 12
Design and Color 3 Units
Prerequisite: Arts 4A and 8.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Six hours lecture-laboratory (72 hours total per quarter).
A fundamental course exploring theory and color in the visual arts.

ARTS 14A
Watercolor Painting I 3 Units
(Formerly Arts 14.)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Arts 4A or 8.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 14A, 14B and 14C may be taken up to six times, not to exceed 18 units, for the family of courses as long as the topics/projects are different each term.)
A comprehensive introduction to transparent watercolor painting with emphasis on basic techniques.

ARTS 14B
Watercolor Painting II 3 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 14A, 14B and 14C may be taken up to six times, not to exceed 18 units, for the family of courses as long as the topics/projects are different each term.)
A continuation of Arts 14A with further emphasis on basic transparent watercolor techniques that relate to the unusual characteristics of the medium, including the use of watercolor pencils and aquarelle crayons in monotype.

ARTS 14C
Watercolor Painting III 3 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 14A, 14B and 14C may be taken up to six times, not to exceed 18 units, for the family of courses as long as the topics/projects are different each term.)
A continuation of Arts 14B with emphasis on transparent and opaque watercolor techniques. Assignments in class will explore the aesthetic concerns of developing styles, ideas, content and self expression within the watercolor medium.

ARTS 15A
Acrylic Painting I 3 Units
Prerequisite: Arts 4A and 12.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 15A, 15B and 15C may be taken up to six times, not to exceed 18 units, for the family of courses.)
An introductory course in acrylic painting with emphasis on basic techniques in both traditional and contemporary techniques that relate to the unusual characteristics of the medium.

ARTS 15B
Acrylic Painting II 3 Units
Prerequisite: Arts 15A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 15A, 15B and 15C may be taken up to six times, not to exceed 18 units, for the family of courses.)
A continuation of Arts 15A with further emphasis on basic techniques that relate to the unusual characteristics of the medium. Surfaces other than canvas will be introduced allowing for more varied results.

ARTS 15C
Acrylic Painting III 3 Units
Prerequisite: Arts 15B.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 15A, 15B and 15C may be taken up to six times, not to exceed 18 units, for the family of courses.)
A continuation of Arts 15B with emphasis on process rather than techniques. Problems in class will relate to aesthetic concerns of idea, content and expression within the acrylic medium.

ARTS 16A
Oil Painting I 3 Units
Prerequisite: Arts 4A and 12.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 16A, 16B and 16C may be taken up to six times, not to exceed 18 units, for the family of courses.)
An introductory oil painting course exploring the application of the media as it relates to the production of artwork through the translation of visual information. Preparation, concept and craft are fundamental as applied to aesthetic concerns.

ARTS 16B
Oil Painting II 3 Units
Prerequisite: Arts 16A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 16A, 16B and 16C may be taken up to six times, not to exceed 18 units, for the family of courses.)
A continuation of Arts 16A with further emphasis on basic techniques that relate to the unusual characteristics of the medium. Conceptual studies, color theory and aesthetics are primary concerns. Surfaces other than canvas will be required.

ARTS 16C
Oil Painting III 3 Units
Prerequisite: Arts 16B.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 16A, 16B and 16C may be taken up to six times, not to exceed 18 units, for the family of courses.)
A continuation of Arts 16B with emphasis on process rather than techniques. Primary concerns include shaped canvases, glazing techniques, ideas, expression, and aesthetics relating to the oil medium.
### ARTS 17
Introduction to Muralism: Democracy in Action 3 Units
(Fomerly Arts 64.)
Advisory: English Writing 1A or English as a Second Language 5.
Six hours lecture-laboratory (72 hours total per quarter).
Explore the application of traditional mural making processes and techniques in combination with the practices of building community through civic engagement. Examine the connection between the arts and community and the role they can play in building bridges and strengthening democratic practices.

### ARTS 18A
Ceramics 3 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Survey of ceramic construction techniques. Use of surface decoration, glazes, and ceramic kiln firing.

### ARTS 18B
Ceramics (Beginning Wheel Throwing) 3 Units
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Beginning techniques of throwing on the potter’s wheel. Forming, shaping, trimming, and decorating basic wheel thrown pieces. Use of stoneware firing techniques and processes in Ceramics (Arts 18A).

### ARTS 18C
Ceramics (Intermediate Wheel Throwing) 3 Units
Prerequisite: Arts 18B.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Intermediate techniques of throwing on the potter’s wheel. Forming, shaping, trimming, and surfacing development of intermediate wheel thrown pieces. Build upon throwing techniques and processes in Beginning Wheel Throwing (Arts 18B).

### ARTS 18D
Ceramics Hand Building 3 Units
(Formerly Arts 66D.)
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Ceramic construction techniques: use of pinch, coil and slab processes. Use of a variety of clay bodies and various firing techniques associated with functional and non-functional ceramic work.

### ARTS 18E
Ceramics (Advanced Wheel Throwing) 3 Units
(Formerly Arts 80.)
Prerequisite: Arts 18C.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Advanced techniques of throwing on the potter’s wheel. Introduction to combined forms and developing the vessel as an aesthetic object. Development of shapes, function and individual expression with clay.

### ARTS 19G
Ceramic Glaze Calculation 3 Units
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Glaze calculation, application, study of ceramic materials, kiln firing techniques with student developed glazes.

### ARTS 19H
Ceramics Raku 3 Units
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Historical development, firing techniques, glaze, kilns and clay-bodies, for the Raku ceramic process.

### ARTS 19I
Ceramic Sculpture 3 Units
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Use of clay as a sculptural and expressive medium: texture, surface, dimensionality, and form.

### ARTS 19J
Ceramic Techniques 3 Units
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Techniques of hand-building and wheel construction combined: experimental glazing and texturing treatments.

### ARTS 19K
Ceramic Decoration 3 Units
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Surface treatments and refinement used in the production of stoneware, earthenware, and porcelain.

### ARTS 19M
Ceramics Low Fire 3 Units
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Survey of earthenware as a ceramic material. Use of surface decoration, glazes, and ceramic kiln firing.

### ARTS 19N
Ceramics Porcelain 3 Units
(Formerly Arts 64N.)
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture-laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Survey of porcelain as a ceramic material. Use of surface decoration, glazes, and ceramic kiln firing.

### ARTS 20
Ceramics Individual Laboratory 2 Units
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours laboratory (72 hours total per quarter).
(Any combination of Arts 37A, 37B and 37C may be taken up to six times, not to exceed 18 units, as long as the topics are different each time.)
Supervised use of ceramic studio equipment for independent skill development; hand building, wheel throwing, kiln firing.

### ARTS 37A
Sculpture 3 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent; Arts 10A.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 37A, 37B and 37C may be taken up to six times, not to exceed 18 units, as long as the topics are different each time.)
Beginning sculpture, with an emphasis on idea development, visual investigation and the sculpture making process, including construction, carving, casting and mixed media.

### ARTS 37B
Intermediate Sculpture 3 Units
Prerequisite: Arts 37A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent.
Six hours lecture-laboratory (72 hours total per quarter).
(Any combination of Arts 37A, 37B and 37C may be taken up to six times, not to exceed 18 units, as long as the topics are different each time.)
Intermediate sculpture with emphasis on further formulation of idea development, visual investigation and its making process. Additional materials and processes will be examined.

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All courses are for unit credit and apply to a De Anza associate degree unless otherwise noted.
ARTS 37C Advanced Sculpture 3 Units
Prerequisite: Arts 37B.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent.
Six hours lecture—laboratory (72 hours total per quarter).
(Any combination of Arts 37A, 37B and 37C may be taken up to six times, not to exceed 18 units, as long as the topics are different each time.)
Advanced sculpture with an emphasis on idea development, visual investigation and the sculpture making process. Additional materials and processes will be examined and demonstrated.

ARTS 50 Ceramics Primitive Firing 3 Units
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture—laboratory (72 hours total per quarter).
(May be taken two times for credit. Students build upon previous experience and develop higher-level skills.)
Construction and utilization of primitive fire kilns, including pit, sawdust, raku, and dung. Practical experience in firing technique.

ARTS 51 Ceramics Kiln Construction 3 Units
(Formerly Arts 19L.)
Prerequisite: Arts 18A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Six hours lecture—laboratory (72 hours total per quarter).
A survey of the computer based electronic technology used by visual artists and designers. Student projects explore the creative potential of basic program options and experience how each relates to today's electronic media environment. Introductory use of Adobe Photoshop, Adobe Illustrator, Adobe Flash and Adobe InDesign.

ARTS 53A Introduction to Visual Technology 3 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Arts 8.
Six hours lecture—laboratory (72 hours total per quarter).
The software used is Adobe Photoshop.

ARTS 53B Introduction to Visual Technology 3 Units
Prerequisite: Arts 53A.
Six hours lecture—laboratory (72 hours total per quarter).
Introductory use of art and design software for the computer. Emphasis on the creative process and the computer as a tool used by artists and designers today.

ARTS 55A Graphic Design-Communication 3 Units
Prerequisite: Arts 53A.
Six hours lecture—laboratory (72 hours total per quarter).
The analysis and interpretation of the elements and principles of design as applied to the practice of graphic design and visual communication. Emphasis on the design process from visualization to production. Software used includes Adobe Photoshop, Adobe Illustrator and Adobe InDesign.

ARTS 55B Graphic Design-Communication 3 Units
Prerequisite: Arts 55A.
Six hours lecture—laboratory (72 hours total per quarter).
Continuation of the analysis and interpretation of the elements and principles of design as applied to the practice of graphic design and visual communication. Emphasis on the design process from visualization to production. Software used includes Adobe Photoshop, Adobe Illustrator and Adobe InDesign.

ARTS 55C Graphic Design-Communication: Production Techniques 3 Units
Prerequisite: Arts 55B or demonstration of appropriate technical abilities suitable to course level.
Six hours lecture—laboratory (72 hours total per quarter).
Intermediate course in the preparation of art for reproduction on the printed page, interactive media, and the World Wide Web. Emphasis is placed on specific studio procedures as well as computer production alternatives used by professionals in the field of graphic design. Software used includes Adobe Photoshop, Adobe Illustrator, Adobe InDesign and Adobe Flash.

ARTS 56 Graphic Design/Page Layout for Electronic Publishing 3 Units
Prerequisite: Arts 53A.
Advisory: Arts 55A.
Six hours lecture—laboratory (72 hours total per quarter).
Analysis and interpretation of the elements and principles of design as applied to the practice of publication design. Emphasis on the design process as it relates to the use of the computer to create type and image in electronic publishing. Primary software presented is Adobe InDesign. Other programs used are Adobe Photoshop and Adobe Illustrator.

ARTS 57 Graphic Design-Communication: Typography 3 Units
Prerequisite: Arts 55B.
Six hours lecture—laboratory (72 hours total per quarter).
Interpretation of the elements and principles of design as applied to the use of typography in graphic design. Emphasis on the integration and selection of letter forms and type styles as they relate to the production for the printed page, multimedia design and the World Wide Web. Software used includes Adobe Photoshop, Adobe Illustrator and Adobe InDesign.

ARTS 58A Furniture Design 3 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent; Arts 10A.
Six hours lecture—laboratory (72 hours total per quarter).
(Any combination of Arts 58A, 58B and 58C may be taken up to six times, not to exceed 18 units, as long as the topics are different each time.)
Beginning furniture design with emphasis on developing basic skills in design, construction and craftsmanship.

ARTS 58B Intermediate Furniture Design 3 Units
Prerequisite: Arts 58A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent.
Six hours lecture—laboratory (72 hours total per quarter).
(Any combination of Arts 58A, 58B and 58C may be taken up to six times, not to exceed 18 units, as long as the topics are different each time.)
Intermediate furniture design, with an emphasis on a broader range of skills in design, construction and craftsmanship.

ARTS 58C Advanced Furniture Design 3 Units
Prerequisite: Arts 58B.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent.
Six hours lecture—laboratory (72 hours total per quarter).
(Any combination of Arts 58A, 58B and 58C may be taken up to six times, not to exceed 18 units, as long as the topics are different each time.)
Advanced furniture design, with an emphasis on individual projects and further development on skills in design, construction and craftsmanship.

ARTS 59 History of Graphic Design 4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture (48 hours total per quarter).
A history of word and image from the Industrial Revolution, through the Modernist Era and the Information Age. Emphasis is placed on the impact of industrial technology in the first half of the Twentieth Century and the importance of graphic design in the global village. Topics will include the origins of printing and typography in the industrial age and postmodern design.

ARTS 63 Business Practices for Graphic Designers 3 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours lecture (36 hours total per quarter).
Introduction to the range of business practices used by artists and designers in the visual communications industry. Emphasis will be placed on legal rights and issues as they relate to the professional artist/client relationship. Topics will include pricing and marketing, salaries and trade customs, standard contracts, and new technology issues.

ARTS 65 Graphic Design for the World Wide Web 3 Units
Prerequisite: Arts 53B.
Six hours lecture—laboratory (72 hours total per quarter).
Hands on Web page design fundamentals with an emphasis on the creative integration of type and image as related to the World Wide Web. Topics will include: navigation software, site content and organization, site layout, scanning and importing imagery, file formats, grids, white space, visual hierarchy, corporate identity/branding and typography issues. The primary software programs used are Adobe Photoshop CS and Adobe Illustrator CS.

ARTS 70 Viewing Bay Area Art Museums and Galleries 1 Unit
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Three hours laboratory (36 hours total per quarter).
(May be taken up to six times for credit as long as the topics/projects are different each time.)
Designed to develop skills in art gallery/museum viewing and critical analysis of content of exhibits, collections and/or lectures.
ARTS 71 Gallery and Exhibition Design 3 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Arts 4A or 8.
Six hours lecture-laboratory (72 hours total per quarter).
The practical experience in all aspects of exhibition design and installation of art exhibits in galleries and museums. Emphasis on design theory and the evaluation and analysis of the communicative, cultural, aesthetic, technical factors involved in the production of exhibits.

ARTS 72 Internship in Art 1 Unit
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Arts 1A, 4A, 8, 10A, and 71.
Three hours laboratory (56 hours total per quarter).
(May be taken up to six times for credit as long as the topics/projects are different each time.)
Directed professional experience in art museums/galleries, art businesses, and art in schools programs in the Bay Area that emphasize the application of skills and knowledge obtained in Gallery and Exhibition Design (Arts 71), Beginning Drawing (Arts 4A), Basic Design (Arts 6), and Three-Dimensional Design (Arts 10A).

ARTS 85 Motion Graphics 3 Units
Prerequisite: Arts 55B.
(Also listed as Film/Television 85. Students may enroll in either department, but not both, for credit.)
Six hours lecture-laboratory (72 hours total per quarter).
The analysis and application of the theory and design involved in the production of graphic design to be viewed in non-print media (film, CRT & LCD screens). The creative integration of "type" and "image" in motion is stressed through the use of directed laboratory exercises. Primary software package is Adobe After Effects. Other software used includes Adobe Photoshop, Adobe Illustrator and Adobe Flash.

ARTS 86 Electronic Illustration Techniques 3 Units
Prerequisite: Arts 53A and 53B.
Six hours lecture-laboratory (72 hours total per quarter).
Introduction to industry standard software related to the creation and implementation of computer-generated illustration. Emphasis is placed on verbal visual relationships and the integration of type and image in contemporary illustration. Topics will include: illustration software options, concept and problem solving, style and personal expression, packaging illustration, charts/diagrams/graphs, and 3D illustration dynamics. The primary software program presented is Adobe Illustrator CS. Adobe Photoshop CS will also be used.

ARTS 112A Digital Imaging Software (Photoshop) 4 Units
(Students may receive credit for either Computer Applications and Office Systems 112A (or 112I and 112Q); Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA.
(Also listed as CAD and Digital Imaging 112A and Computer Applications and Office Systems 90GA. Students may enroll in only one department for credit.)
Eight hours lecture-laboratory (96 hours total per quarter).
Pass-No Pass (P-NP) course.
Basic and intermediate principles using digital imaging software to produce graphics for websites. Introduction to digital imaging terminology and software. This course is for the content person to develop and maintain an effective website.

ARTS 112I Digital Imaging Software I (Photoshop) 2 Units
(Students may receive credit for either Computer Applications and Office Systems 112A (or 112I and 112Q); Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA.
(Also listed as CAD and Digital Imaging 112I and Computer Applications and Office Systems 112I. Students may enroll in only one department for credit.)
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
Basic principles of using digital imaging software to produce graphics for websites. Introduction to digital imaging terminology and software. This course is for the content person to produce Web pages using digital images.

ARTS 112Q Digital Imaging Software II (Photoshop) 2 Units
(Students may receive credit for either Computer Applications and Office Systems 112A (or 112I and 112Q); Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA.
(Also listed as CAD and Digital Imaging 112Q and Computer Applications and Office Systems 112Q. Students may enroll in only one department for credit.)
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
Basic and intermediate principles of using digital imaging software to produce graphics for websites. Introduction to digital imaging terminology and software. This course is for the content person to produce Web pages using digital images.

ARTS 113A Web Authoring Software (Dreamweaver) 4 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA and 102G-P.
(Also listed as Computer Applications and Office Systems 113A. Students may enroll in only one department for credit.)
Eight hours lecture-laboratory (96 hours total per quarter).
Pass-No Pass (P-NP) course.
Basic and intermediate principles of building Web pages/sites using Web authoring software. Introduction to Web authoring terminology and software. This course is for the content person to develop and maintain an effective website.

ARTS 114A Web Graphics/Animation Software (Flash) 3 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 112A (or 112I and 112Q); or Arts 112A (or 112I and 112Q); or CAD and Digital Imaging 112A (or 112I and 112Q).
(Also listed as CAD and Digital Imaging 114A and Computer Applications and Office Systems 114A. Students may enroll in only one department for credit.)
Six hours lecture-laboratory (72 hours total per quarter).
Pass-No Pass (P-NP) course.
Basic and intermediate principles of graphics/animation for the Web. Web graphics/animation terminology and software. This course is for the content person to build a website.

ARTS 116I Web Development Graphics Software I 2 Units
(Illustrator)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
(Also listed as Computer Applications and Office Systems 116I. Students may enroll in either department, but not both, for credit.)
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
Basic principles of using vector-based graphics software to produce graphics for Web sites. Introduction to vector-based graphics terminology and software. This course is for the content person to produce vector graphic images.

ARTS 118A Advanced Web Graphics/Animation Software (Flash) 3 Units
Prerequisite: Computer Applications and Office Systems 114A, or Arts 114A, or CAD and Digital Imaging 114A.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Computer Applications and Office Systems 90GA.
(Also listed as CAD and Digital Imaging 118A and Computer Applications and Office Systems 118A. Students may enroll in only one department for credit.)
Six hours lecture-laboratory (72 hours total per quarter).
Pass-No Pass (P-NP) course.
An advanced Flash course that is projects and portfolio based and taught from a designer perspective. Students will be taught how to build a portfolio and animated multimedia presentation. Basic programming skills will be taught along with developing interactive Web-based multimedia presentations using ActionScripts, sound and graphics.

Astronomy

ASTR 4 Solar System Astronomy 5 Units
(See general education pages for the requirement this course meets.)
Advisory: English Writing 1A or English as a Second Language 5.
Five hours lecture (60 hours total per quarter).
Analyze the physical principles, logic, and development of solar system astronomy from ancient times through the present. Examine earth and sky relationships, exploration of the solar system by spacecraft and earth-based methods, similarities and differences between Earth and other planets, theories of the origin of our planetary system, and properties of other stars’ planetary systems. Includes multimedia planetarium demonstrations.

ASTR 10 Stellar Astronomy 5 Units
(See general education pages for the requirement this course meets.)
Advisory: English Writing 1A or English as a Second Language 5.
Five hours lecture (60 hours total per quarter).
Analyze the physical principles, logic, and development of stellar astronomy from ancient times to the present, with emphasis on recent developments. Examine the relationship of Earth to its deep-space environment and contrast the Sun to other types of stars. Synthesize the organization in space and time of the hierarchy of the cosmos from stellar systems through the universe on its largest observable scale, and investigate the observational strategies and equipment that are used to investigate it.
**ASTR 77 Special Projects in Astronomy**  
1 Unit

**ASTR 77X**  
2 Units

**ASTR 77Y**  
3 Units

Prerequisite: Consent of instructor and division dean.

Three hours laboratory per week for each unit of credit (36 total hours for each unit of credit per quarter).

(Any combination of Astronomy 77, 77X and 77Y may be taken up to six times, not to exceed 18 units, as long as the projects are different each time.)

Pass-No Pass (P-NP) course.

Individual research in Astronomy. Specific projects to be determined on consultation with the instructor. Outside reading and written report(s) required. These projects are on topics not covered in the regular Astronomy curriculum and require the approval of the PSM&E Division Dean.

**Automotive Technology**

**AUTO 50A Introduction to Automotive Principles**  
4 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.

Four hours lecture (48 hours total per quarter).

A selective study of the automobile's engine systems. Knowledge and skills necessary for basic repair, maintenance, and troubleshooting of today's engine systems. May be used to fulfill the prerequisite to the Automotive Technology Program.

**AUTO 50B Applied Automotive Principles**  
2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A (may be taken concurrently).

Four hours lecture-laboratory (48 hours total per quarter).

Basic lecture-laboratory experiences in automotive repair and maintenance as related to the engine and its supporting systems.

**AUTO 51A Introduction to Automotive Principles - Chassis Systems**  
4 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.

Four hours lecture (48 hours total per quarter).

A selective study of the automobile's chassis and drive line systems. Knowledge and skills necessary for basic repair, maintenance, and troubleshooting of today's chassis and drive line systems. Can be used to fulfill the prerequisite to the Automotive Technology Program.

**AUTO 51B Applications of Automotive Principles - Chassis Systems**  
2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 51A (may be taken concurrently).

Four hours lecture-laboratory (48 hours total per quarter).

Basic lecture-laboratory experiences in automotive repair and maintenance as related to suspension, steering, braking and drive line components.

**AUTO 53A Automotive Mechanisms**  
3 Units

Prerequisite: Approved Automotive Technology Course Sequence Contract.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.

Six hours lecture-laboratory (72 hours total per quarter).

The application of physical principles to the operation of mechanical, hydraulic, and hydromechanical systems, using an applied physics technique.

**AUTO 53B Automotive Electromechanical Systems**  
2 Units

Prerequisite: Approved Automotive Technology Course Sequence Contract.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.

Four hours lecture-laboratory (48 hours total per quarter).

Electrical theories, testing and measuring procedures, circuit construction and schematic interpretation. Application of the principles of magnetism. Fundamentals of operation of semiconductors used as electronic devices and controls.

**AUTO 57A Career Research and Employment in the Automotive Industry**  
2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Two hours lecture (24 hours total per quarter).

Career research in the automotive industry; job search, applications and resumes, employer-employee relationships, job interviews.

**AUTO 60 Automotive Electrical Systems**  
9 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A and 50B.

Nine hours lecture (108 hours total per quarter).

Principles of electricity, electronics, cranking, and charging systems. Testing, diagnosis and repair of these systems.

**AUTO 60A Electrical Schematic Diagnosis**  
4 1/2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 60.

Four and one-half hours lecture (54 hours total per quarter).

Theory of operation for electrical, electronic, and electromechanical accessory systems. Understanding and using wiring diagrams, schematics, and other diagnostic information to troubleshoot electrical, electronic, and electromechanical systems.

Preparation for Automotive Service Excellence (ASE) examination in areas A6, A8, and L1.

**AUTO 60B Automotive Electronics**  
4 1/2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A, 50B, 60 and 60A.

Four and one-half hours lecture (54 hours total per quarter).

Application of computer control principles to automotive systems. Operation of automotive electronic control systems, including commonly used sensors, actuators, and displays. Introduction to diagnostic methods and test equipment for automotive electronic control systems.

Preparation for Automotive Service Excellence (ASE) examination in areas A6, A8, and L1.

**AUTO 60C Automotive Ignition, Fuel, and Emission Systems**  
9 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A, 50B, 60, 60A and 60B.

Nine hours lecture (108 hours total per quarter).

Introduction to components, subsystems, and functions of ignition, fuel delivery, carburetor and fuel injection systems (engine management). Introduction to automotive emission controls. Basic diagnosis, service, and repair procedures.

Preparation for Automotive Service Excellence (ASE) examination in areas A6, A8, and L1.

**AUTO 60D Ignition Analysis and Oscilloscope Diagnosis**  
4 1/2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A, 50B, 60, 60A, 60B, 60C, and 60D.

Four and one-half hours lecture (54 hours total per quarter).

Ignition system principles of operation and diagnosis. Use of electronic test equipment in ignition system diagnosis. Preparation for Automotive Service Excellence (ASE) certification examinations in Areas A6, A8, and L1.

**AUTO 60E Automotive Fuel Injection**  
4 1/2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A, 50B, 60, 60A, 60B, 60C, and 60D.

Four and one-half hours lecture (54 hours total per quarter).


Preparation for Automotive Service Excellence (ASE) examination in Areas A6 and L1.

**AUTO 60F No-Start Diagnosis**  
4 1/2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A, 50B, 60, 60A, 60B, 60C, and 60D.

Four and one-half hours lecture (54 hours total per quarter).

Principles of troubleshooting procedures and techniques to analyze and repair of “no start” problems in the fuel, ignition, and electrical systems of an automobile.

Preparation for Automotive Service Excellence (ASE) examination in Areas A6, A8, and L1.

**AUTO 60G Advanced Scan Tool Diagnosis**  
4 1/2 Units

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A, 50B, 60, 60A, 60B, 60C, 60D and 60E.

Four and one-half hours lecture (54 hours total per quarter).


Preparation for Automotive Service Excellence (ASE) examination in Areas A6, A8 and L1.
## AUTO 60H Advanced Drivability and Onboard Diagnostics
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A, 50B, 60, 60A, 60B, 60C, 60D and 60E. Four and one-half hours lecture (64 hours total per quarter). Survey of onboard diagnostic systems from 1980 to the present. Advanced electronic diagnostic procedures using an automotive scan tool. Preparation for Automotive Service Excellence (ASE) examination in Areas A6, A8, and L1.

## AUTO 60J Advanced Lab Scope and Waveform Diagnostics
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A, 50B, 60, 60C, 60D, 60E, 60F and 60G. Four and one-half hours lecture (54 hours total per quarter). Diagnosis of automotive electronic systems using a laboratory oscilloscope and a powergraphing meter. Related use of other basic test equipment, including a digital multimeter and scan tool. Advanced waveform analysis. Preparation for Automotive Service Excellence (ASE) examination in Areas A6, A8, and L1.

## AUTO 60K Automotive Body Electrical Systems 4 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 60A and 60B. Four and one-half hours lecture (54 hours total per quarter). Theory of operation of body electrical, electronic, and electromechanical systems. Understanding the functions of automotive body electrical systems. Utilization of special diagnostic equipment for body electrical systems and subsystems. Appropriate repair protocol for applied body electrical systems. Symptom-to-system diagnosis. Preparation for Automotive Service Excellence (ASE) examination in area A6.

## AUTO 60M Hybrid Electric Vehicles 4 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 60A, 60B, 60C and 60G. Four and one-half hours lecture (54 hours total per quarter). Understanding the functions of automotive hybrid propulsion systems. Operating characteristics of hybrid drive systems. Integration of high voltage power supplies and energy storage systems. Operating fundamentals of DC to DC converters. Relationship of internal combustion engines and motor generators. Function and design of regenerative braking systems. Operation of hybrid transmission systems and power splitting devices. Application of the high expansion ratio cycle. Understanding safety aspects of service hybrid electric vehicles. Utilization of special diagnostic equipment for hybrid electrical systems and related subsystems. Appropriate repair protocol for hybrid electrical systems. Maintenance and servicing of hybrid vehicles.

## AUTO 60N Hybrid Vehicle Safety and Maintenance 2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 210 or 212 or equivalent; Automotive Technology 60A and 60B. Two hours lecture (24 hours total per quarter). Explores the use of hybrid electric power for vehicle transportation. Topics will include: safety, maintenance of hybrid propulsion and internal combustion systems, drivability, and storage battery technology. Various designs of hybrid vehicles and their integrated systems from multiple manufacturers will be discussed. This course also fulfills the Toyota Technician Education Network training requirement for the T-256 course. This course is suitable for students interested in alternative fuels or power and energy technology.

## AUTO 61A Automotive Brake Systems 4 1/2 Units
(Formerly Automotive Technology 61.) Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 60A and 60B. Four and one-half hours lecture (54 hours total per quarter). Operation of automotive brake systems. Repair, maintenance and troubleshooting.

## AUTO 61B Electronically Controlled Brake Systems 4 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 62A. Four and one-half hours lecture (64 hours total per quarter). Computer controlled automotive brake systems, including service, maintenance, troubleshooting and repair procedures.

## AUTO 62A Automotive Suspension, Steering, and Alignment 9 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A and 50B. Nine hours lecture (108 hours total per quarter). Operation of automotive suspension, steering and alignment systems. Overview of maintenance, repair and troubleshooting procedures.

## AUTO 62B Advanced Wheel Alignment 9 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 62A. Nine hours lecture (108 hours total per quarter). Advanced study of wheel alignment systems. Emphasis is placed on diagnostic inspection and repair procedures.

## AUTO 63 Automatic Transmissions and Transaxles 9 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A and 50B. Nine hours lecture (108 hours total per quarter). Principles of operation, service and repair procedures for automatic transmissions and transaxles. Hydraulic and mechanical system operation. Power flow and component repair techniques. Preparation for Automotive Service Excellence (ASE) certification examination A2.

## AUTO 63A Automotive Drive Train 4 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A and 50B. Four and one-half hours lecture (54 hours total per quarter). Principles of operation of automotive drive train components. Service and repair procedures, product problem discussions and demonstrations. Preparation for Automotive Service Excellence (ASE) certification examination A3.

## AUTO 63B Automatic Transmission 4 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A and 50B. Four and one-half hours lecture (54 hours total per quarter). Principles of operation, service and repair procedures of automatic transmissions. Hydraulic and mechanical system operation. Preparation for Automotive Service Excellence (ASE) certification examination A2.

## AUTO 63C Automotive Transaxles 4 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A and 50B. Four and one-half hours lecture (54 hours total per quarter). Automotive transaxle operation. Theory of operation, service and repair techniques related to automatic transaxles. Power flow and component repair techniques. Preparation for Automotive Service Excellence (ASE) certification examination A2.

## AUTO 63D Transmission Diagnostic and Repair 4 1/2 Units
Techniques
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A and 50B. Nine hours lecture (108 hours total per quarter). Diagnostic and repair techniques for automatic transmissions and transaxles. Emphasis on development of diagnostic procedures and repair techniques. Preparation for Automotive Service Excellence (ASE) certification examinations A2 and A3.

## AUTO 64 Automotive Machining and Engine Repair 9 Units
(Formerly Automotive Technology 64A and 64B.) Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A and 50B. Nine hours lecture (108 hours total per quarter). Repair and rebuilding of engine cylinder heads and block components, engine assembly and testing. Includes theory, diagnosis, disassembly, cleaning, inspection and failure analysis. Preparation for Automotive Service Excellence (ASE) examinations for areas A1 and M1, M2, and M3.

## AUTO 64HP High Performance Engine Preparation 9 Units
Prerequisite: Automotive Technology 64; or Automotive Technology 64A and 64B. Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 50A and 50B. Nine hours lecture (108 hours total per quarter). Precision and performance engine preparation. Includes selection and matching of engine and valve train components for maximum efficiency and output.

## AUTO 65P Clean Air Car Course 7 Units
Prerequisite: Automotive Technology 60, 60B, and 60E, and one year of automotive experience. Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent. Seven hours lecture (84 hours total per quarter). Automotive technician training program for California’s Inspection and Maintenance Program (I&M Program). Course content is mandated by the BAR.

All courses are for unit credit and apply to a De Anza associate degree unless otherwise noted.
AUTO 65R California ASE Alternative Training A6 2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 60, 60A and 60B.
Two hours lecture (24 hours total per quarter).
Review of On-Board Diagnostics Generation I (OBDI). Extensive coverage of On-board Diagnostics Generation II (OBDII) operating system, testing procedures and strategies. Preparation for Automotive Service Excellence (ASE) examination in areas A6, A8, L1, and Inspection and Maintenance (I/M) technician update requirements.

AUTO 65S California ASE Alternative Training A8 2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 60, 60A, 60B and 60C.
Two hours lecture (24 hours total per quarter).
An approved course by the Bureau of Automotive Repair (BAR) as an alternative to meet the ASE A8 certification prerequisites for obtaining a smog technician license.

AUTO 65V California ASE Alternative Training L1 2 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Service Excellence (ASE) Certification A6 and A8.
Two and one-half hours lecture (30 hours total per quarter).
Approved by the Bureau of Automotive Repair (BAR) as an alternative to meet the ASE L1 certification prerequisites for obtaining a smog technician license.

AUTO 65W Advanced Clean Air Car Course 2 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Service Excellence (ASE) Certification A6, A8, L1.
Two and one-half hours lecture (30 hours total per quarter).
Automotive technician training program for California’s Inspection and Maintenance Program (I & M Program). This course meets the Bureau of Automotive Repair (BAR) requirement for obtaining an Advanced Emissions Specialist (EA) Smog Check License.

AUTO 66 Automotive Air Conditioning 4 1/2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent; Automotive Technology 60.
Four and one-half hours lecture (54 hours total per quarter). Operation and service of automotive air conditioning refrigeration and electrical control systems. Includes retrofitting. Emphasis on diagnosis and repair of systems. Preparation for Automotive Service Excellence (ASE) certification examination in area A7.

AUTO 69X Smog Check Update 1 Unit
One hour lecture for each unit of credit (12 hours total for each unit of credit per quarter).
(Any combination of Automotive Technology 69X, 69Y, and 69Z may be taken up to six times for credit.)
A legally mandated course required by the California Bureau of Automotive Repair (BAR) to obtain a renewal Smog Check License every two years. This applies to all State Licensed Smog Check Technicians. The Smog Check Program changes and updates will be covered. The State Smog Check License renewal examination will be given at the end of the course. The unit value of the course will depend on the curriculum and hours of instruction specified by BAR for the current two year cycle.

AUTO 91A Automotive Brake Systems 5 Units
Prerequisite: Approved Automotive Technology Course Sequence Contract; Automotive Technology 91A.
Ten hours lecture-laboratory (120 hours total per quarter).
Repair, maintenance and troubleshooting of automotive braking systems.

AUTO 91B Active Brake Systems 1 1/2 Units
Prerequisite: Approved Automotive Technology Course Sequence Contract; Automotive Technology 91A.
Three hours lecture-laboratory (36 hours total per quarter).
Repair, maintenance and troubleshooting of automotive active/anti-lock brake systems.

AUTO 92A Automotive Steering and Suspension 5 Units
Prerequisite: Approved Automotive Technology Course Sequence Contract; Automotive Technology 91A.
Ten hours lecture-laboratory (120 hours total per quarter).
Repair, maintenance and troubleshooting of suspension and steering systems.
AUTO 94C Automotive Machining and Engine Service 5 Units
Prerequisite: Automotive Technology 94B; approved Automotive Technology Course Sequence Contract.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Ten hours lecture-laboratory (120 hours total per quarter).
Reconditioning engine short block assemblies and components including balancing, assembly and testing.

AUTO 94D Automotive Machining and Engine Service 5 Units
Prerequisite: Automotive Technology 94C; approved Automotive Technology Course Sequence Contract.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Ten hours lecture-laboratory (120 hours total per quarter).
Precision and performance engine preparation with emphasis on improvements in volumetric efficiency. Includes selection and matching of components for maximum efficiency within mandated emissions requirements.

AUTO 94E Automotive Machining and Engine Service 5 Units
(Formerly Automotive Technology 94EA.)
Prerequisite: Automotive Technology 94D.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Ten hours lecture-laboratory (120 hours total per quarter).
Complete automotive machine shop practice including engine repair, assembly, testing, and installation. Researching service and installation procedures and parts and labor estimating.

AUTO 94F Automotive Machining and Engine Service 5 Units
(Formerly Automotive Technology 94EB.)
Prerequisite: Automotive Technology 94E.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Ten hours lecture-laboratory (120 hours total per quarter).
Practice and skill development with emphasis on precision and productivity in rebuilding, servicing, and installing engines. Research and prepare equipment operation and maintenance instructions.

AUTO 99A Automotive Electricity, Battery, and Cranking Systems 6 1/4 Units
Prerequisite: Automotive Technology 50B; approved Automotive Technology Course Sequence Contract.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Twelve and one-half hours lecture-laboratory (150 hours total per quarter).
(May be taken up to three times for credit.)
Automotive electricity including the electron theory, fundamentals of circuit construction and interpretation, principles of magnetism as applied to electric motors, relays and coils. Diagnosis, troubleshooting and servicing of automotive battery and cranking systems including system repair procedures. Developing skills in the use of test equipment including the DVM and electrical load testing tools for the analysis and diagnosis of these types of electrical systems.

AUTO 99B Automotive Charging, Ignition, and Accessory Systems 6 1/4 Units
Prerequisite: Automotive Technology 99A; approved Automotive Technology Course Sequence Contract.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Twelve and one-half hours lecture-laboratory (150 hours total per quarter).
(May be taken up to three times for credit.)
The fundamentals of automotive electronic devices as they apply to the automotive charging and ignition systems. Emphasis on diagnosis of these systems using test instruments and the oscilloscope. Introduction to automotive accessory systems including wiring and repair techniques. Skill development in the understanding of the electrical wiring diagram networks as provided by manufacturers.

AUTO 99C Introduction to Engine Performance 6 1/4 Units
Systems
Prerequisite: Automotive Technology 99B; approved Automotive Technology Course Sequence Contract.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Twelve and one-half hours lecture-laboratory (150 hours total per quarter).
(May be taken up to three times for credit.)
Electronically controlled automotive systems. Fundamentals of automotive microprocessors and automotive onboard computers. Testing techniques for system input and output devices. Diagnosis, troubleshooting, and repairing the automotive fuel supply system including carburetion and feedback carburetion. Diagnosis and troubleshooting, and repair techniques for no-start conditions. Procedure development for analyzing and repairing common problems of fuel, ignition, electrical and basic engine mechanical systems which effect engine performance of the automobile.

AUTO 99D Intermediate Engine Performance 6 1/4 Units
Prerequisite: Automotive Technology 99C; approved Automotive Technology Course Sequence Contract.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Twelve and one-half hours lecture-laboratory (150 hours total per quarter).
(May be taken up to three times for credit.)

AUTO 99E Basic Engine Performance Diagnostic 6 1/4 Units
Prerequisite: Automotive Technology 99D; approved Automotive Technology Course Sequence Contract.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Twelve and one-half hours lecture-laboratory (150 hours total per quarter).
(May be taken up to three times for credit.)
Automotive technician training program to include each system which aids in increasing fuel economy and in the reduction of emissions and pollutants from the automobile. Diagnosing and troubleshooting the systems controlling automotive performance and drivability.

AUTO 99F Intermediate Engine Performance Diagnostic Procedures 6 1/4 Units
Prerequisite: Automotive Technology 99E; approved Automotive Technology Course Sequence Contract.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 212 or equivalent.
Twelve and one-half hours lecture-laboratory (150 hours total per quarter).
(May be taken up to three times for credit.)
Performance tuning of automotive gasoline engines. Emphasis on reference material, dealing with repair procedures, specifications, and efficient tune-up procedures. Intermediate level for usage of computer scanners and oscilloscopes. Diagnosing, troubleshooting, and repairing the systems designed for the control of engine temperature.

Biology

BIOL 5 Biology of Birds 5 Units
(See general education pages for the requirement this course meets.)
Advisory: English Writing 1A or English as a Second Language 5.
Four hours lecture, six hours laboratory (84 hours total per quarter).
A general introduction to the biology of birds and the relationships between birds and people around the world. Examines general avian anatomy and physiology with emphasis on diversity and bird identification and the ecology, behavior and conservation of selected bird species.

BIOL 6A Form and Function in the Biological World 6 Units
(See general education pages for the requirement this course meets.)
Prerequisite: A satisfactory score on the Chemistry Placement Exam or a grade of C or better in either Chemistry 1A or 50.
Advisory: English Writing 1A or English as a Second Language 5.
Four hours lecture, six hours laboratory (120 hours total per quarter).
Introduction to biology and scientific methods for students beginning the biology major series. Study of the structure and physiological processes of living organisms, with an emphasis on plants and animals.

BIOL 6B Cell and Molecular Biology 6 Units
Prerequisite: Biology 6A.
Advisory: English Writing 1A or English as a Second Language 5; Mathematics 114 or equivalent.
Four hours lecture, six hours laboratory (120 hours total per quarter).
Introduction to cellular structure and function, biological molecules, bioenergetics, molecular genetics, and cell proliferation. The laboratory includes extensive hands-on experimentation in molecular biology.

BIOL 6C Ecology and Evolution 6 Units
Prerequisite: Biology 6B.
Advisory: English Writing 1A or English as a Second Language 5; Mathematics 114 or equivalent.
Four hours lecture, six hours laboratory (120 hours total per quarter).
Principles of ecology and evolution. Includes ecology of populations, communities, ecosystems and biomes as well as evolution of populations, and the origin of species and higher taxa. The laboratory portion of the course includes a research project designed, researched and presented by students.