Principles of ecology and evolution. Includes ecology of populations, communities, and ecosystems and biomes as well as evolution of populations, and the origin of life. Introduction to biology as a branch of the biological sciences and to its basic unifying principles, with selected application to the scientific method, evolutionary concepts, genetic modification, biotechnology, ecology, ecological crises and human impacts.

**BIOL 11 Human Biology** 5 Units  
(Not open to students who have completed Biology 6A, 6B, 6C or equivalent.)  
(See general education pages for the requirement this course meets.)  
Advisory: English Writing 1A or English as a Second Language 5.  
Four hours lecture, three hours laboratory (84 hours total per quarter).  
A general introduction to biology and its principles, emphasizing the biology of humans. The course will cover the unifying principles of biology, with emphasis on the anatomy and physiology of the human body, as well as on contemporary health issues and their impacts on cultural, ethnic and gender groups.

**BIOL 13 Marine Biology** 5 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, three hours laboratory (84 hours total per quarter).  
An introduction to ecology and field biology as a branch of the biological sciences and its relationship to the scientific method. A review of plant and animal adaptations to the natural environments and the impact of pollution, degradation of habitat, and human impacts.

**BIOL 26 Introductory Microbiology** 6 Units  
Prerequisite: (Biology 40A, 40B and 40C) or (Biology 6A, 6B and 6C), or equivalent, all with a grade of C or better.  
Four hours lecture, six hours laboratory (120 hours total per quarter).  
An introduction to microbiology, the study of microorganisms. Basic principles of microbiology, morphological, biochemical, and genetic properties of bacteria and other microorganisms; the disease process and immunity. The importance of microorganisms to human and veterinary medicine. The importance of microorganisms to the environment and human health issues.

**BIOL 40A Human Anatomy and Physiology** 5 Units  
Prerequisite: Satisfactory score on the Biology 40A Placement Test or Chemistry 1A or Chemistry 50 or Chemistry 30A with a grade of C or better.  
Four hours lecture, six hours laboratory (120 hours total per quarter).  
An introduction to human anatomy and physiology. Basic principles of human anatomy and physiology as exemplified in the study of cell structure, cell biology, histology and the integumentary, skeletal and muscular systems with emphasis on homeostatic mechanisms.

**BIOL 40B Human Anatomy and Physiology** 5 Units  
Prerequisite: Biology 40A with a grade of C or better.  
Four hours lecture, three hours laboratory (84 hours total per quarter).  
Study of the nervous, circulatory, and respiratory systems.

**BIOL 40C Human Anatomy and Physiology** 5 Units  
Prerequisite: Biology 40A and 40B, with a grade of C or better.  
Four hours lecture, three hours laboratory (84 hours total per quarter).  
Study of the endocrine system, lymphatic system, digestive system, metabolism, urinary and reproductive systems, embryological development and classical Mendelian and modern biochemistry and genetics including genetic engineering.
### Biotechnology

(See Foothill College catalog.)

### Business

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Prerequisites</th>
<th>Advisory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BUS 10</strong></td>
<td>Introduction to Business</td>
<td>5</td>
<td>(Formerly Business 20.)</td>
<td>English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</td>
</tr>
<tr>
<td><strong>BUS 18</strong></td>
<td>Business Law</td>
<td>5</td>
<td></td>
<td>English Writing 1A or English as a Second Language 5; Business 10.</td>
</tr>
<tr>
<td><strong>BUS 21</strong></td>
<td>Business and Society</td>
<td>5</td>
<td>(See general education pages for the requirement this course meets.)</td>
<td>English Writing 21A and Reading 21A as a Second Language 5.</td>
</tr>
<tr>
<td><strong>BUS 55</strong></td>
<td>Introduction to Entrepreneurship</td>
<td>5</td>
<td></td>
<td>English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</td>
</tr>
<tr>
<td><strong>BUS 54</strong></td>
<td>Business Mathematics</td>
<td>5</td>
<td></td>
<td>English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 210 or equivalent.</td>
</tr>
<tr>
<td><strong>BUS 56</strong></td>
<td>Human Relations in the Workplace</td>
<td>5</td>
<td></td>
<td>English Writing 21A or English as a Second Language 5.</td>
</tr>
<tr>
<td><strong>BUS 57</strong></td>
<td>Human Resource Management</td>
<td>4</td>
<td></td>
<td>English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Business 10 or 56.</td>
</tr>
<tr>
<td><strong>BUS 58</strong></td>
<td>The Business Plan</td>
<td>4</td>
<td></td>
<td>Business 55.</td>
</tr>
<tr>
<td><strong>BUS 59</strong></td>
<td>Promoting Your Small Business</td>
<td>5</td>
<td></td>
<td>English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.</td>
</tr>
</tbody>
</table>

All courses are for unit credit and apply to a De Anza associate degree unless otherwise noted.
BUS 60 International Business Management 5 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 210 or equivalent. Five hours lecture (60 hours total per quarter). International Business and its functions in a diverse global economy. Understanding cross-border trade and investment; distance, time zone and language issues; national differences in government regulation, culture and business systems.

BUS 61 Introduction to Technical Writing 5 Units
Prerequisite: English Writing 1A or English as a Second Language 5. (Also listed as English Writing 61 and Technical Writing 61. Students may enroll in only one department for credit.) Five hours lecture (60 hours total per quarter). Technical writing skills focusing on basic techniques of exposition for the technical field, functional description, process writing, technical vocabulary, correct usage, and accurate editing.

BUS 62 Survey of Technical Writing 5 Units
Prerequisite: Business 61 or English Writing 61 or Technical Writing 61 (may be taken concurrently). (Also listed as English Writing 62 and Technical Writing 62. Students may enroll in only one department for credit.) Five hours lecture (60 hours total per quarter). Technical writing skills focusing on short document formats, production of sections of various technical documents, and incorporation of graphics within text.

BUS 63 Technical Publications 5 Units
Prerequisite: Business 61 or English Writing 61 or Technical Writing 61. (Also listed as English Writing 63 and Technical Writing 63. Students may enroll in only one department for credit.) Five hours lecture (60 hours total per quarter). Technical writing and editing skills applied through individual and group assignments with emphasis on planning, scheduling, and producing longer reports, manuals, and instructions. Development of organizational skills and individual documentation solutions.

BUS 64 Technical Writing Seminar 5 Units
Prerequisite: Business 62 or 63; or English Writing 62 or 63; or Technical Writing 62 or 63. (Also listed as English Writing 64 and Technical Writing 64. Students may enroll in only one department for credit.) Five hours lecture (60 hours total per quarter). Technical communication and editing skills applied through the preparation and presentation of a complete document according to the standards of the student's chosen technical field.

BUS 65 Leadership 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). Develop effectiveness in leadership situations and understand the complex challenges of leadership. Adapt leadership techniques to build successful relationships in a culturally diverse world.

BUS 67A Federal Income Tax 4 Units
(Formerly Business 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 Accounting 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.

BUS 67B Advanced Tax Accounting I 4 Units
(Formerly Business 68A.) Advisory: Accounting 67A or Business 67A. (Also listed as Accounting 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 taxes.

BUS 69 Investment Fundamentals 4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 210 or equivalent. Four hours lecture (48 hours total per quarter). Introduction to securities investment; securities characteristics and rights; selection and purchase of stock; analysis of financial statements; investment methods; technical market and stock analysis; impact on financial planning.

BUS 70 Principles of E-Business 5 Units
Requisite/Advisory: None. Five hours lecture (60 hours total per quarter). Theory and practice of effectively conducting and managing business over the Internet. Insights into e-business models, strategy, technology, auctions, and marketing. Students are expected to complete computer assignments.

BUS 85 Business Communication 3 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Computer Applications and Office Systems 84A. Three hours lecture (36 hours total per quarter). Application of writing skills to business communications; public relations functions of business correspondence.

BUS 87 Introduction to Selling 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). Application of business and behavioral sciences in a selling environment. Building successful relationships in a culturally diverse world.

BUS 89 Advertising 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). Historical, economic, and social aspects of advertising: role of the advertising agency; media alternatives and the development of creative advertising copy; development of advertising budgets; analysis of successful advertising campaigns.

BUS 90 Principles of Marketing 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). Fundamentals of marketing; product planning and development; pricing strategies; marketing channels.

BUS 91 Introduction to Personal Finance 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 a range of personal financial planning fundamentals including spending habits, taxes, saving, investing, and insurance. Planning for major life events such as paying for college, buying a home, and retiring comfortably.

BUS 96 Principles of Management 5 Units
Formerly Business 96A.) 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). Roles, functions, and responsibilities of management; the external environments and their impact on management.

CAD and Digital Imaging

CDI 51 Geometric Dimensioning and Tolerancing 2 Units
(Formerly CAD and Digital Imaging 51C.) Requisite/Advisory: None. Four hours lecture-laboratory (48 hours total per quarter). Geometric dimensioning and tolerancing, utilizing ANSI Y14.5M standards as they apply to engineering and manufacturing drawings and machining.

CDI 56 Special Projects in CAD 1 Unit
CDI 56X 2 Units
CDI 56Y 3 Units
Prerequisite: Consent of instructor and division dean. Three hours laboratory for each unit of credit (36 hours total for each unit of credit per quarter). (Any combination of CAD and Digital Imaging 56, 56X and 56Y may be taken up to six times, not to exceed 18 units, as long as the projects are different each time.) Projects advancing student's knowledge and experience in a selected area of CAD. Students will complete project objectives/requirements as determined in 3, 4, and 5 of the Special Projects Contract.

CDI 58B Unigraphics NX (Beginning) 4 Units
Requisite/Advisory: None. Eight hours lecture-laboratory (96 hours total per quarter). Fundamentals of computer-aided design and drafting using Unigraphics software. Application of Unigraphics in creating manufacturing models.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>CDI 63E</td>
<td>SolidWorks (SURFACES)</td>
<td>4</td>
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<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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<tr>
<td></td>
<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
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<tr>
<td></td>
<td>Surface design using SolidWorks software. Application of surfaces in creating product models and molds for industry.</td>
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<tr>
<td>CDI 63F</td>
<td>SolidWorks (SURFACES)</td>
<td>4</td>
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<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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<tr>
<td></td>
<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
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<tr>
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<td>Surface design using SolidWorks software. Application of surfaces in creating product models and molds for industry.</td>
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<tr>
<td>CDI 67D</td>
<td>SolidWorks (Simulation)</td>
<td>4</td>
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<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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<tr>
<td></td>
<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
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<tr>
<td></td>
<td>Application of Simulation to validate and optimize 3D models by measuring stress and displacement distributions of new designs through simulating responses to structural and thermal loads.</td>
<td></td>
</tr>
<tr>
<td>CDI 67E</td>
<td>SolidWorks (Simulation)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
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<td>Application of Simulation to validate and optimize 3D models by measuring stress and displacement distributions of new designs through simulating responses to structural and thermal loads.</td>
<td></td>
</tr>
<tr>
<td>CDI 70C</td>
<td>Pro/ENGINEER Wildfire (Beginning)</td>
<td>4</td>
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<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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</tr>
<tr>
<td></td>
<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
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<tr>
<td></td>
<td>Fundamentals of part design, using Pro/ENGINEER. Application of operating system, software, hardware, and peripherals in creating 3-D manufacturing models with Pro/ENGINEER.</td>
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<tr>
<td>CDI 70D</td>
<td>Pro/ENGINEER Wildfire (Beginning)</td>
<td>4</td>
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<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
<td></td>
</tr>
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<tr>
<td>CDI 70E</td>
<td>Creo Parametric (Beginning)</td>
<td>4</td>
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<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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<tr>
<td></td>
<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
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</tr>
<tr>
<td></td>
<td>Fundamentals of part design, using Creo Parametric (formally Pro/ENGINEER). Application of operating system, software, hardware, and peripherals in creating 3D manufacturing models with Creo Parametric.</td>
<td></td>
</tr>
<tr>
<td>CDI 71C</td>
<td>Pro/ENGINEER Wildfire (Intermediate)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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</tr>
<tr>
<td></td>
<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
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<tr>
<td></td>
<td>Assembly creation and drawing output using Pro/ENGINEER.</td>
<td></td>
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<tr>
<td>CDI 71D</td>
<td>Pro/ENGINEER Wildfire (Intermediate)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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<tr>
<td></td>
<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
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</tr>
<tr>
<td></td>
<td>Assembly creation and drawing output using Pro/ENGINEER.</td>
<td></td>
</tr>
<tr>
<td>CDI 71E</td>
<td>Creo Parametric (Intermediate)</td>
<td>4</td>
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<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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</tr>
<tr>
<td></td>
<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
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</tr>
<tr>
<td></td>
<td>Assembly creation and drawing output using Creo Parametric (formally Pro/ENGINEER).</td>
<td></td>
</tr>
<tr>
<td>CDI 72C</td>
<td>Pro/ENGINEER Wildfire (Advanced)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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</tr>
<tr>
<td></td>
<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
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<tr>
<td></td>
<td>Advanced design and photo-rendering modules and capabilities from Pro/ENGINEER are used to create unique designs and display them in a realistic, lifelike setting.</td>
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<tr>
<td>CDI 72D</td>
<td>Pro/ENGINEER Wildfire (Advanced)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Prerequisite/Advisory: None.</td>
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</tr>
<tr>
<td></td>
<td>Eight hours lecture-laboratory (96 hours total per quarter).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Advanced design and photo-rendering modules and capabilities from Pro/ENGINEER are used to create unique designs and display them in a realistic, lifelike setting.</td>
<td></td>
</tr>
</tbody>
</table>

All courses are for unit credit and apply to a De Anza associate degree unless otherwise noted.
CDI 72E  Creo Parametric (Advanced)  4 Units
Prerequisite: CAD and Digital Imaging 71E.
Eight hours lecture-laboratory (96 hours total per quarter).
Advanced design and photo-rendering modules and capabilities from Creo Parametric (formally Pro/ENGINEER) are used to create unique designs and display them in a realistic, lifelike setting.

CDI 73C  Pro/ENGINEER Wildfire (Pro/ SHEETMETAL)  4 Units
Prerequisite: CAD and Digital Imaging 70C.
Eight hours lecture-laboratory (96 hours total per quarter).
Principles of sheet metal design using Pro/ENGINEER Pro/SHEETMETAL.

CDI 73D  Pro/ENGINEER Wildfire (Pro/ SHEETMETAL)  4 Units
Prerequisite: CAD and Digital Imaging 70D.
Eight hours lecture-laboratory (96 hours total per quarter).
Principles of sheet metal design using Pro/ENGINEER Pro/SHEETMETAL.

CDI 73E  Creo Parametric (Sheetmetal)  4 Units
Prerequisite: CAD and Digital Imaging 70E.
Eight hours lecture-laboratory (96 hours total per quarter).
Principles of sheet metal design using Creo Parametric (formally Pro/ENGINEER).

CDI 74C  Pro/ENGINEER Wildfire (Pro/ SURFACE)  4 Units
Prerequisite: CAD and Digital Imaging 70C.
Eight hours lecture-laboratory (96 hours total per quarter).
Surface design using Pro/ENGINEER software. Application of surfaces in creating product models for industry.

CDI 74D  Pro/ENGINEER Wildfire (Pro/ SURFACE)  4 Units
Prerequisite: CAD and Digital Imaging 70D.
Eight hours lecture-laboratory (96 hours total per quarter).
Surface design using Pro/ENGINEER software. Application of surfaces in creating product models for industry.

CDI 74E  Creo Parametric (Surface)  4 Units
Prerequisite: CAD and Digital Imaging 70E.
Eight hours lecture-laboratory (96 hours total per quarter).
Surface design using Creo Parametric (formally Pro/ENGINEER) software. Application of surfaces in creating product models for industry.

CDI 77C  Pro/ENGINEER Wildfire (Pro/ MECHANICA)  4 Units
Prerequisite: CAD and Digital Imaging 70C.
Eight hours lecture-laboratory (96 hours total per quarter).
Application of Pro/MECHANICA to validate and optimize 3D models by measuring stress and displacement distributions of new designs through simulating responses to structural loads.

CDI 77D  Pro/ENGINEER Wildfire (Pro/ MECHANICA)  4 Units
Prerequisite: CAD and Digital Imaging 70D.
Eight hours lecture-laboratory (96 hours total per quarter).
Application of Pro/MECHANICA to validate and optimize 3D models by measuring stress and displacement distributions of new designs through simulating responses to structural loads.

CDI 77E  Creo Parametric (Mechanica)  4 Units
Prerequisite: CAD and Digital Imaging 70E.
Eight hours lecture-laboratory (96 hours total per quarter).
Application of Creo Parametric (Mechanica) (formally Pro/ENGINEER MECHANICA) to validate and optimize 3D models by measuring stress and displacement distributions of new designs through simulating responses to structural loads.

CDI 80C  AutoCAD (Beginning)  4 Units
Prerequisite/Advisory: None.
Eight hours lecture-laboratory (96 hours total per quarter).
Principles and applications of computer-aided design and drafting using AutoCAD software. Emphasis on 2D drawings and dimensioning.

CDI 80D  AutoCAD (Beginning)  4 Units
Prerequisite/Advisory: None.
Eight hours lecture-laboratory (96 hours total per quarter).
Principles and applications of computer-aided design and drafting using AutoCAD software. Emphasis on 2D drawings and dimensioning.

CDI 81C  AutoCAD (Intermediate)  4 Units
Prerequisite: CAD and Digital Imaging 80C.
Eight hours lecture-laboratory (96 hours total per quarter).
Intermediate mechanical design using AutoCAD software. Emphasis is on the CAD design process and drawing production. Drawings will be produced in 2-D and 3-D.

CDI 81D  AutoCAD (Intermediate)  4 Units
Prerequisite: CAD and Digital Imaging 80D.
Eight hours lecture-laboratory (96 hours total per quarter).
Intermediate mechanical design using AutoCAD software. Emphasis is on the CAD design process and drawing production. Drawings will be produced in 2-D and 3-D.

CDI 81E  AutoCAD (Intermediate)  4 Units
Prerequisite: CAD and Digital Imaging 80E.
Eight hours lecture-laboratory (96 hours total per quarter).
Intermediate mechanical design using AutoCAD software. Emphasis is on the CAD design process and drawing production. Drawings will be produced in 2-D and 3-D.

CDI 83C  AutoDesk REVIT Architecture  4 Units
Requisite/Advisory: None.
Eight hours lecture-laboratory (96 hours total per quarter).
Application of REVIT Architecture in creating building designs and extracting documents.

CDI 83D  AutoDesk REVIT Architecture  4 Units
Requisite/Advisory: None.
Eight hours lecture-laboratory (96 hours total per quarter).
Application of REVIT Architecture in creating building designs and extracting documents.

CDI 83E  AutoDesk REVIT Architecture  4 Units
Requisite/Advisory: None.
Eight hours lecture-laboratory (96 hours total per quarter).
Application of REVIT Architecture in creating building designs and extracting documents.

CDI 85D  AutoDesk Inventor  4 Units
Requisite/Advisory: None.
Eight hours lecture-laboratory (96 hours total per quarter).
Fundamentals of computer-aided design and drafting using AutoDesk Inventor software. Application of Inventor in creating manufacturing models.

CDI 85E  AutoDesk Inventor  4 Units
Requisite/Advisory: None.
Eight hours lecture-laboratory (96 hours total per quarter).
Fundamentals of computer-aided design and drafting using AutoDesk Inventor software. Application of Inventor in creating manufacturing models.

CDI 95A  CATIA (Beginning)  4 Units
Requisite/Advisory: None.
Eight hours lecture-laboratory (96 hours total per quarter).
Fundamentals of computer-aided design and drafting using CATIA software. Application of CATIA in creating manufacturing models.

CDI 95B  CATIA (Beginning)  4 Units
Requisite/Advisory: None.
Eight hours lecture-laboratory (96 hours total per quarter).
Fundamentals of computer-aided design and drafting using CATIA software. Application of CATIA in creating manufacturing models.

CDI 101  CAD Technology Laboratory (Creo)  1/2 Unit
CDI 101X  1 Unit
CDI 101Y  1 1/2 Units
CDI 101Z  2 Units
Three hours laboratory for each unit of credit (96 hours total for each unit of credit per quarter).
(Any combination of CAD and Digital Imaging 101, 101X, 101Y and 101Z may be taken up to six times for credit as long as the projects are different each time.)
Pass-No Pass (P-NP) course.
Self-paced projects and computer based training on Creo software. Instruction is in the use of CAD technology using projects from other Creo courses. Learning assistance is provided in a designated De Anza center by an approved De Anza instructor who is trained in Creo software. Students will use the classroom available only CBT (Computer based Training) module available for the CAD system. All projects will be derived from this CBT.
CDI 102 CAD Technology Laboratory (SolidWorks) 1/2 Unit
CDI 102X 1 Unit
CDI 102Y 1 1/2 Units
CDI 102Z 2 Units
Three hours laboratory for each unit of credit (36 hours total for each unit of credit per quarter).
(Any combination of CAD and Digital Imaging 102, 102X, 102Y and 102Z may be taken up to six times for credit as long as the projects are different each time.) Pass-No Pass (P-NP) course.
Self-paced projects and computer based training on SolidWorks software. Instruction is in the use of CAD technology using projects from other SolidWorks courses. Learning assistance is provided in a designated De Anza center by an approved De Anza instructor who is trained in SolidWorks software. Students will use the classroom available only CBT (Computer based Training) module available for the CAD system. All projects will be derived from this CBT.

CDI 103 CAD Technology Laboratory (AutoDESK) 1/2 Unit
CDI 103X 1 Unit
CDI 103Y 1 1/2 Units
CDI 103Z 2 Units
Co-requisite: CAD and Digital Imaging 80A-H, 81A-H or 83A-H.
Three hours laboratory for each unit of credit (36 hours total for each unit of credit per quarter).
(Any combination of CAD and Digital Imaging 103, 103X, 103Y and 103Z may be taken up to six times for credit as long as the projects are different each time.) Pass-No Pass (P-NP) course.
Self-paced projects and computer based training on AutoDESK software. Instruction is in the use of CAD technology using projects from other AutoDESK courses. Learning assistance is provided in a designated De Anza center by an approved De Anza instructor who is trained in AutoDESK software. Students will use the classroom available only CBT (Computer based Training) module available for the CAD system. All projects will be derived from this CBT.

CDI 104 CAD Technology Laboratory (Inventor) 1/2 Unit
CDI 104X 1 Unit
CDI 104Y 1 1/2 Units
CDI 104Z 2 Units
Co-requisite: CAD and Digital Imaging 85A-H.
Three hours laboratory for each unit of credit (36 hours total for each unit of credit per quarter).
(Any combination of CAD and Digital Imaging 104, 104X, 104Y and 104Z may be taken up to six times for credit as long as the projects are different each time.) Pass-No Pass (P-NP) course.
Self-paced projects and computer based training on Inventor software. Instruction is in the use of CAD technology using projects from other Inventor courses. Learning assistance is provided in a designated De Anza center by an approved De Anza instructor who is trained in Inventor software. Students will use the classroom available only CBT (Computer based Training) module available for the CAD system. All projects will be derived from this CBT.

CDI 105 CAD Technology Laboratory (NX) 1/2 Unit
CDI 105X 1 Unit
CDI 105Y 1 1/2 Units
CDI 105Z 2 Units
Co-requisite: CAD and Digital Imaging 85A-H.
Three hours laboratory for each unit of credit (36 hours total for each unit of credit per quarter).
(Any combination of CAD and Digital Imaging 105, 105X, 105Y and 105Z may be taken up to six times for credit as long as the projects are different each time.) Pass-No Pass (P-NP) course.
Self-paced projects and computer based training on NX software. Instruction is in the use of CAD technology using projects from other NX courses. Learning assistance is provided in a designated De Anza center by an approved De Anza instructor who is trained in NX software. Students will use the classroom available only CBT (Computer based Training) module available for the CAD system. All projects will be derived from this CBT.

CDI 106 CAD Technology Laboratory (CATIA) 1/2 Unit
CDI 106X 1 Unit
CDI 106Y 1 1/2 Units
CDI 106Z 2 Units
Co-requisite: CAD and Digital Imaging 85A-H.
Three hours laboratory for each unit of credit (36 hours total for each unit of credit per quarter).
(Any combination of CAD and Digital Imaging 106, 106X, 106Y and 106Z may be taken up to six times for credit as long as the projects are different each time.) Pass-No Pass (P-NP) course.
Self-paced projects and computer based training on CATIA software. Instruction is in the use of CAD technology using projects from other CATIA courses. Learning assistance is provided in a designated De Anza center by an approved De Anza instructor who is trained in CATIA software. Students will use the classroom available only CBT (Computer based Training) module available for the CAD system. All projects will be derived from this CBT.

CDI 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 82A or Arts 83A.
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.

Cantonese

CANT 1 Elementary Cantonese (First Quarter) 5 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.
Five hours lecture (60 hours total per quarter).
Cantonese language and culture of Southeast China in the region of Guangdong Province is presented and studied. Basic speaking, listening, reading and writing of Cantonese will be introduced within a cultural context. Emphasis will be on language as an expression of culture.

CANT 2 Elementary Cantonese (Second Quarter) 5 Units
(See general education pages for the requirement this course meets.)
Prerequisite: Cantonese 1 (equivalent to one year of high school Cantonese) or equivalent.
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).
Further development of material presented in Cantonese 1. Presentation and study of the second quarter elementary-level of Cantonese language and the culture of Guangdong Province. Basic speaking, listening, reading and writing of Cantonese will be continued and practiced within a cultural context. Emphasis will be on language as an expression of culture.

CANT 3 Elementary Cantonese (Third Quarter) 5 Units
(See general education pages for the requirement this course meets.)
Prerequisite: Cantonese 2 (equivalent to two years of high school Cantonese) or equivalent.
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).
Further development of material presented in Cantonese 1 and Cantonese 2. Presentation and study of the third quarter elementary-level of Cantonese language and the culture of Guangdong Province. Basic speaking, listening, reading and writing of Cantonese will be further introduced within a cultural context. Emphasis will be on language as an expression of culture.

CANT 60A Cantonese - Introductory Conversation (First Quarter) 3 Units
Requisite/Advisory: None.
Three hours lecture (36 hours total per quarter).
An introduction to the language and cultures of Cantonese-speaking communities. Spoken Cantonese will be introduced with focus on pronunciation and vocabulary, in connection with elements of Chinese and Cantonese culture necessary to understand the language. Intensive drills in the patterns and idioms of daily speech will be supported by sufficient grammar to give flexibility in the spoken language.

CANT 60B Cantonese - Introductory Conversation (Second Quarter) 3 Units
Prerequisite: Cantonese 60A or equivalent.
Three hours lecture (36 hours total per quarter).
The next course in the introductory conversation Cantonese sequence, following Cantonese 60A. Continues the introduction to the language and culture of Cantonese-speaking communities. The vocabulary and grammatical structures mastered in Cantonese 60A will be consolidated and further developed, in conjunction with elements of Chinese and Cantonese culture. Emphasis will be on practical communication for everyday use, particularly conversational fluency.
CANT 60C Cantonese - Introductory Conversation (Third Quarter) 3 Units
Prerequisite: Cantonese 60B or equivalent.
Three hours lecture (36 hours total per quarter).
The next course in the introductory conversation Cantonese sequence, following Cantonese 60B. Continues the introduction to the language and culture of Cantonese-speaking communities. The vocabulary and grammatical structures mastered in Cantonese 60B will be consolidated and further developed, in conjunction with elements of Chinese and Cantonese culture. Focus will be on speaking and comprehension proficiency.

CANT 61A Cantonese - Intermediate Conversation (First Quarter) 3 Units
Prerequisite: Cantonese 60C or equivalent.
Three hours lecture (36 hours total per quarter).
The first course in the intermediate conversation Cantonese sequence, following Cantonese 60C. Continues the introduction to the language and culture of Cantonese-speaking communities in the world. The vocabulary and grammatical structures mastered in Cantonese 60C will be consolidated and further developed, in conjunction with elements of Chinese and Cantonese culture. Elements of Cantonese for business are introduced such as business setting interactions.

CANT 61B Cantonese - Intermediate Conversation (Second Quarter) 3 Units
Prerequisite: Cantonese 61A or equivalent.
Three hours lecture (36 hours total per quarter).
The next course in the intermediate conversation Cantonese sequence, following Cantonese 61A. Continues the introduction to the language and culture of Cantonese-speaking communities in the world. The vocabulary and grammatical structures mastered in Cantonese 61A will be consolidated and further developed, in conjunction with elements of Chinese and Cantonese culture and history to be discussed in class. Elements of Chinese for business are further introduced such as meeting discussions.

CANT 61C Cantonese - Intermediate Conversation (Third Quarter) 3 Units
Prerequisite: Cantonese 61B or equivalent.
Three hours lecture (36 hours total per quarter).
The high intermediate level of conversation, following Cantonese 61B. Continues the introduction to the language and culture of Cantonese-speaking communities in the world. The vocabulary and grammatical structures mastered in Cantonese 61B will be consolidated and further developed, in conjunction with elements of Chinese and Cantonese culture and history. Current events from newspaper/media will be discussed and elements of Chinese for business are further introduced such as every day commercial transactions.

Career Life Planning

CLP 70 Self-Assessment 4 Units
(See general education pages for the requirement this course meets.)
(Students may enroll in either Career Life Planning 70 or 75, but not both, for credit.)
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).
Examine the decision making process by exploring theories in career development and other factors such as familial, social, and cultural issues that influence career and lifestyle choices. Utilize self-assessment inventories to identify individual interests, values, skills, and personality types as they relate to career/collage major options. Become familiar with career development software, related technology and develop skills to enhance the job search process.

CLP 75 College Major and Career Options 2 Units
(Students may enroll in either Career Life Planning 70 or 75, but not both, for credit.)
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).
Pass-No Pass (P-NP) course.
Identify your compatible college majors and career options by completing a variety of self-assessment inventories. Examine how individual, family, social, and cultural perspectives influence the college major and career decision-making process. Review college major and career myths, the purpose and structure of higher education, and organizational structures found in employment settings.

Chemistry

CHEM 1A General Chemistry 5 Units
(See general education pages for the requirement this course meets.)
Prerequisite: Chemistry 50 or satisfactory score on Chemistry Placement Test; Mathematics 114 or equivalent.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours lecture, six hours laboratory (108 hours total per quarter).
An introduction to the structure and reactivity of matter at the molecular level. Application of critical reasoning to modern chemical theory and structured numerical problem solving. Development of molecular structure from rudimentary quantum mechanics, including an introduction to ionic and covalent bonding. Chemical problem solving involving both formula and reaction stoichiometry employing the unit analysis method. Application of Kinetic Molecular Theory to the study of classical gas laws and an introduction to thermochemistry.

CHEM 1B General Chemistry 5 Units
Prerequisite: Chemistry 1A with a grade of C or better.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours lecture, six hours laboratory (108 hours total per quarter).
Continuation of an introduction to the principles of chemistry. Investigation of reversible reactions from the standpoints of kinetics, thermodynamics, and equilibrium. Application of equilibrium to the reactions of acids and bases.

CHEM 1C General Chemistry and Qualitative Analysis 5 Units
Prerequisite: Chemistry 1B with a grade of C or better.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture, three hours laboratory (84 hours total per quarter).
An introduction to the discipline of chemistry, including chemical laboratory techniques and methods and a survey of important chemical principles. The course emphasizes chemistry as a subject of scientific inquiry and is designed to give the student a general appreciation for chemistry as a science.

CHEM 12A Organic Chemistry 5 Units
Prerequisite: Chemistry 1C with a grade of C or better.
Advisory: English Writing 1A or English as a Second Language 5.
Three hours lecture, six hours laboratory (108 hours total per quarter).
An introduction to the physical properties and chemical behavior of important classes of organic compounds, focusing on hydrocarbons and haloalkanes. Emphasis on retrosynthesis, spectroscopic structure determination, and reaction mechanism. Laboratory experiments involving the synthesis of simple compounds and the characterization of those compounds using gas chromatography (GC), and infrared (IR) and nuclear magnetic resonance (NMR) spectroscopy. For chemistry majors or those in closely allied fields such as biochemistry and chemical engineering.

CHEM 12B Organic Chemistry 5 Units
Prerequisite: Chemistry 12A with a grade of C or better.
Advisory: English Writing 1A or English as a Second Language 5.
Three hours lecture, six hours laboratory (108 hours total per quarter).
An introduction to the physical properties and chemical behavior of important classes of organic compounds, focusing on: polyenes; aromatic compounds; alcohols, thiols, and ethers; and aldehydes and ketones and their derivatives. Emphasis on retrosynthesis, spectroscopic structure determination, and reaction mechanism. Laboratory experiments involving the synthesis of simple compounds and the characterization of those compounds using gas chromatography and infrared (IR), ultraviolet-visible (UV-Vis), and nuclear magnetic resonance (NMR) spectroscopy. For chemistry majors or those in closely allied fields such as biochemistry and chemical engineering.

CHEM 12C Organic Chemistry 5 Units
Prerequisite: Chemistry 12B with a grade of C or better.
Advisory: English Writing 1A or English as a Second Language 5.
Three hours lecture, six hours laboratory (108 hours total per quarter).
An exploration of the physical properties and chemical behavior of important classes of organic compounds, focusing on: polyenes; aromatic compounds; alcohols, thiols, and ethers; and aldehydes and ketones and their derivatives. Emphasis on retrosynthesis, spectroscopic structure determination, and reaction mechanism. Laboratory experiments involving the synthesis of simple compounds and the characterization of those compounds using gas chromatography and infrared (IR), ultraviolet-visible (UV-Vis), and nuclear magnetic resonance (NMR) spectroscopy. For chemistry majors or those in closely allied fields such as biochemistry and chemical engineering.
CHEM 30A  Introduction to General, Organic and Biochemistry I  5 Units
(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 114 or equivalent.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture, three hours laboratory (84 hours total per quarter).
This is a two-part class to be taken in sequence by students entering allied health fields. The focus of the first part of this class is an introduction to general chemistry. This course begins with a discussion of various measurement tools. This will be followed with a discussion of energy and matter which will be followed by a discussion of the discovery of an atom. The next set of topics will cover an introduction to elements, compounds, and types of bonding in compounds followed by various types of chemical reactions and stoichiometric calculations based on chemical equations. Properties of gases and solutions will be discussed. The course concludes with a discussion of acid-base chemistry and nuclear chemistry.

CHEM 30B  Introduction to General, Organic and Biochemistry II  5 Units
(See general education pages for the requirement this course meets.)
Prerequisite: Chemistry 30A or Chemistry 50 or Chemistry 1A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Four hours lecture, three hours laboratory (84 hours total per quarter).
This class is for students entering the allied health fields. The focus of the second part of Introduction to General, Organic, and Biochemistry is organic and biochemistry. The topics included in organic chemistry are: hydrocarbons, alcohols, thioles, ethers, carboxylic acids, esters, amines, and amides. Various physical and chemical properties of these organic substances will be studied along with nomenclature and structural features. The topics included in biochemistry are: carbohydrates, fatty acids and lipids, amino acids and proteins, nucleic acids and DNA. Various physical and chemical properties of these biological molecules will be studied. A brief introduction to metabolism will also be discussed.

CHEM 50  Preparation Course for General Chemistry  5 Units
Prerequisite: Mathematics 114 or equivalent.
Advisory: English Writing 1A or English as a Second Language 5.
Four hours lecture, three hours laboratory (84 hours total per quarter).
An introduction to the core theories and problem-solving techniques of chemistry as preparation for Chemistry 1A and other science related fields. An introduction togravimetric and volumetric analysis, rudimentary laboratory equipment and operations, and the preparation and maintenance of a laboratory notebook.

CHEM 77  Special Projects in Chemistry  1 Unit
CHEM 77X  2 Units
CHEM 77Y  3 Units
Prerequisite: Consent of instructor and division dean.
Three hours laboratory for each unit of credit (36 hours total for each unit of credit per quarter).
(Any combination of Chemistry 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 special reading, writing, or study projects in chemistry as determined in consultation with the instructor.

Child Development

C D 10G  Child Development (The Early Years)  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.
(Also listed as Psychology 10G. Students may enroll in either department, but not both, for credit.)
Four hours lecture (48 hours total per quarter).
An examination of human growth and development from conception to middle childhood with particular attention given to current theoretical and research perspectives within a diverse society. Observational study of children with analysis of factors influencing development including conditions that put children at risk. (This course meets NAEYC Standards 1 and 3; NBPTS Standards 1 and 4; and DEC/CEC Standards 1, 2 and 3.)

C D 10H  Child Development (Middle Childhood and Adolescence)  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.
(Also listed as Psychology 10H. Students may enroll in either department, but not both, for credit.)
Four hours lecture (48 hours total per quarter).
An examination of human growth and development both typical and atypical from school age through adolescence with particular attention given to current theoretical and research perspectives within a diverse society.
(This course meets NAEYC Standards 1 and 3; NBPTS Standards 1 and 4; and CEC Standards 1, 2 and 3.)

C D 12  Child, Family and Community Interrelationships  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 study of the developing person in a societal context including the interrelationship of family, schools and community. (Applicable standards to this course: NAEYC Standards; Standard 2 Building Family and Community Relationship; NBPTS Early Childhood Generalist Standards; Standard 2 Equity, Fairness and Diversity; Standard 7 Family, Community Partnerships; Standard 9 Reflective Practice; DEC/CEC/DEC Standards; Standard 9 Professional and Ethical Practice; Standard 10 Collaboration.)

C D 50  Principles and Practices of Teaching Young Children  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).
The underlying theoretical principles of developmentally appropriate practices applied to programs, environments, and teaching strategies. (Applicable standards for this course: NAEYC Standard 4 Teaching and Learning; 4a Connecting with children and families; 4b Using developmentally effective approaches; Standard 5 Becoming a Professional 5a-5e; NBPTS Standard IV promoting Child Development and Learning; Standard IX Reflective Practice; DEC/CEC/DEC Standards 3 Individual learning differences; Standard 5 Learning environments and social interactions; Standard 9 Professional and ethical practice.)

C D 51  Student Teaching Practicum  5 Units
Prerequisite: Child Development 10G, 54, and one other Child Development curriculum courses (Child Development 53, 55, 61 or 63).
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Ten hours lecture-laboratory (120 hours total per quarter).
(May be taken up to three times for credit as long as experience is different each time.)
Laboratory experience with guided supervision working with children from infancy through the school age years. Emphasis will be on making connections between theory and practice, using observation and interactions to understand children's development, implementing developmentally appropriate, child-centered approaches to teaching and learning and developing professional behaviors and attitudes.
(This course meets the NAEYC Standards 1, 2, 3, 4, and 5; and NBPTS Standards 1 through 9.)

C D 52  Observation and Assessment of the Young Child  3 Units
Prerequisite: Child Development 10G and 50.
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).
Observation strategies and formal assessment methodologies used to understand children's development, age-appropriate curriculum and the classroom setting. (This course meets NAEYC Standards 3a-3d; NBPTS Standards 3 and 4; and DEC Standard 8 Assessment.)

C D 53  Creative Art for the Young Child  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).
Overview of creative activities for children from infancy through the school years. Emphasis on design, presentation and assessment of developmentally appropriate activities that use sensory, child centered materials to enhance imagination, creative thinking, problem solving, divergent thinking and self-expression in young children. Special attention is given to creating a climate that supports creative exploration and the role of the teacher in promoting growth and development of creativity in each child.
(This course meets NAEYC Standards 1a, 1b, 1c; 4a, 4b, 4d; NBPTS Standards III, IV, VI; and CDE/DEC Standards CC1- K10, CC4-S2; EC4-S1; CC7, S10, S11, S15; EC7-S2.)

C D 54  Curriculum for Early Childhood Programs  3 Units
Prerequisite: Child Development 10G (may be taken concurrently).
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).
Curriculum development with emphasis on planning curriculum that is emergent, developmentally and individually appropriate and inclusive.
(This course meets NAEYC Standards 1 and 4; and NBPTS Standards 4, 5 and 6.)

All courses are for unit credit and apply to a De Anza associate degree unless otherwise noted.

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C D 55  Literacy Development and Activities for the Young Child 3 Units
Advisory: Child Development 10G and/or Child Development 50. Three hours lecture (36 hours total per quarter).
Theories of language acquisition and the process of language development in monolingual and bilingual English language learners. Introduction to methodologies and materials that enhance emerging language and literacy for infants through school-age children in a culturally diverse society.
This course meets NAEYC Standards: 1a, 1b, 1c, 2a, 2b, 3a, 4a, 4b, 4c, 4d.

C D 56  Understanding and Working with English Language Learners 3 Units
Advisory: Completion of Child Development 10G (or Psychology 10G) and 55; English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
(Also listed as Education 56. Students may enroll in either department, but not both, for credit.)
Three hours lecture (36 hours total per quarter).
Developmental and cultural examination of the dual language learner in early childhood programs. Theories and developmental sequence of bilingual language acquisition. Role of teacher and methods for supporting the dual language child.
This course meets NAEYC Standard 4b: Teaching and learning: Using developmentally effective approaches; NBPTS Early childhood/Generalist Standard II: Equity, Fairness and Diversity; CEC Special Education Content Standards, Standard 2: Development & Characteristics of Learners; Standard 6: Language.

C D 57  Self-Assessment for Teachers of Young Children: Field Experience 3 Units
Prerequisite: Child Development 10G or Psychology 10G.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Two hours lecture, three hours laboratory (60 hours total per quarter).
Use of self-assessment techniques for individualized teacher preparation with emphasis on understanding the development of the child, teaching, guidance techniques, and assessment of personal effectiveness in the classroom. Students will use field placement to practice and develop skills.

C D 58  Infant/Toddler Development 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).
Development of physical, cognitive, social and emotional development from infancy to age three with emphasis on cultural diversity and family partnerships. Program planning based on observation of individual infants and communication with parents. Evaluation of assessment tools and methods for infants and toddlers, including administration, and interpretation. Development of needs and service plans for individual infants.
This course meets NAEYC Standards 1-5; NBPTS Standards 4 and 5; and DEC Standard 5 Family Based Practices.

C D 59G  Supervision and Administration of Child Development Programs (Management Systems) 4 Units
Prerequisite: A minimum of 12 units of Child Development course work, which includes Child Development 10G
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 study of the development of management systems for the supervision and administration of various kinds of early childhood programs in the context of a diverse society. Emphasis is on program planning, organizational structure, program operation, program evaluation, budgeting, and personnel management.

C D 59H  Supervision and Administration of Child Development Programs (Leadership Skills) 4 Units
Prerequisite: A minimum of 12 units of Child Development course work, which includes Child Development 10G
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 study of the methods and principles of leadership as they apply to administration of programs in early childhood settings. Emphasis is on personnel management, leadership styles and skills, interpersonal communication, ethical and professional standards and an awareness of the sociopolitical context of early childhood programs.

C D 60  Exceptional Children 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).
Characteristics and causes of exceptionality and the inclusion of children with disabilities in childhood settings (infant - adolescence), includes discussion of developmental disabilities, family, and community involvement. Implementation of State and Federal law, as well as the examination of attitudes and feelings about exceptionality.
This course meets NAEYC Standards 1a, 2a, 2c, 3a; CEC/DEC Standards CC2-K1-7, CC3-K1, CC5-K4, CC8-K1-5; and NBPTS Standards 2, 3, 8.

C D 61  Music and Movement (Developmental Foundations) 3 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.
Three hours lecture (36 hours total per quarter).
A developmental introduction to music and movement experiences. Students will have opportunities to engage in and to reflect on how music and movement fosters healthy development in children and adults. Students will also have opportunities to see how music and movement defines and is linked to cultural experience and to who we are as individuals.

C D 63  Math and Science Activities for the Young Child 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).
Design and assess developmentally appropriate activities and environments that foster curiosity and problem solving in young children. Emphasis on constructivist theories of cognitive development as a foundation for planning and implementing math and science curriculum for each child.
This course meets NAEYC Standards 1a, 1b, 4b, 4c, 5a, 5b, 5c; NBPTS Standard 1-V; CEC/DEC Standards CC4-S2, EC4-S1, CC7-K1, CC7-S1, CC7-S10, CC7-S11, CC7-S13, EC7-S4.

C D 64  Health, Safety, and Nutrition for the Young Child 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).
Health, safety, and nutritional practices required for the protection and improvement of the health of preschool children. Includes infant, child, and adult first aid. CPR can be taken in the community through the Red Cross, American Heart Association or at De Anza College Health Services.
(This course meets the California State requirements for health, safety, and nutrition.)
(According to the NAEYC (National Association for Educators of Young Children) standards: students prepared in associate degree programs use their understanding of young children's characteristics and needs, and of multiple interacting influences on children's development and learning, to relate environments, that are healthy, respectful, supportive, and challenging for all children.)

C D 66  Programs for School-Age Child Care 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).
Before and after school programs for children in kindergarten through sixth grade with emphasis on developmental characteristics, program philosophy, licensing requirements, program content, and criteria for evaluation.
(This course meets NAEYC Standards 1 and 4 and NBPTS 4, 5 and 6 standards.)

C D 67  Montessori Methods and Materials 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).
Philosophical foundations and the environmental components of the Montessori Method in early childhood education.

C D 68  Supervision and Administration of Child Development Programs (Adult Supervision) 3 Units
Prerequisite: Child Development 10G, 12 and 54.
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).
A study of the methods and principles of supervising student teachers, assistant teachers, parents and volunteers in early childhood classrooms. Emphasis is on the role of teachers supervising other adults while simultaneously addressing the classroom needs of children, parents and the program.
C D 68  
Teaching in a Diverse Society  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).  
Examination of the development of social identities in diverse societies including theoretical and practical implications of oppression and privilege as they apply to young children, families, programs, classrooms and teaching. Various classroom strategies will be explored emphasizing culturally and linguistically appropriate anti-bias approaches supporting all children in becoming competent members of a diverse society. (This course meets NAECY Standards 1a, 1b, 1c, 2a, 2b, 2c, 4a, 4b, 5b, 5c; NBPTS Standards II, VII; CEC/DEC Standards CC2-K3, CC2-K4, EC2-K4, CC3-K3, CC3-K4, CC5-K9, CC5-K10, CC6-K1, CC6-K2, CC6-K3, CC9-K1, CC9-S6, CC10-S3.)

C D 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 Anthropology 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.  

C D 70  
Seminar in Parenting the Preschool Child  1 Unit  
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.  
One hour lecture (12 hours total per quarter).  
(May be taken up to six times for credit as long as the topics are different each time.)  
Pass-No Pass (P-NP) course.  
A seminar for parents, teachers and other adults interested in the parenting of children, primarily (but not exclusively) two to five years old. Students will explore and examine the ways to strengthen families. Students will also learn about optimal environments to support the healthy growth and development of children and parents. (This course meets the NAECY Standard 2; NBPTS Standard 7; and DEC/CEC Standard 3.)

C D 71  
Constructive Guidance and Positive Discipline in Early Childhood  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).  
Explores the principals and techniques that promote high self-esteem and positive behavior in young children. (This course meets NAECY Standards 1a, 1c, 2b, 4a, 4b; DEC/CEC Standards CC3-K3, EC3-S1, CC6-K1, CC6-K3; and NBPTS Standard 2.)

C D 72  
Partnerships with Families in Early Childhood Education  3 Units  
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.  
An examination of the key principles and effective approaches in family support practice; strategies to communicate and involve families in early childhood education. (This course meets NAECY Standard 2, Building Families and Community Relationships; NBPTS-Generalist Standard VIII, Family and Community Partnership; and CEC/DEC Standard 10, Collaboration.)

C D 73  
Early Childhood Mental Health  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 Education 73. Students may enroll in either department, but not both, for credit.)  
Three hours lecture (36 hours total per quarter).  

C D 74  
Early Childhood Mental Health Seminar and Fieldwork  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 Education 74. Students may enroll in either department, but not both, for credit.)  
Two hours lecture, three hours laboratory (60 hours total per quarter).  
Provides an overview of different approaches to early identification and intervention with children and their families and will help students develop basic support skills for use in dealing with high-risk families, including those with exceptional emotional, social, or physical needs. (This course meets NAECY Standard 3, Standard 4b; NBPTS Early Childhood/Generalist Standard I, III, VI, IX; and CEC Special Education Content Standards, Standards 4, 5 and 6.)

C D 75  
Social Emotional Development in Early Childhood  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).  
Social emotional development and how family, gender, teacher, and society influence this development. The impact of variations in development on learning and life outcomes. (This course meets NAECY Standards 1a, 1b, 1c, 2b, 4a; CEC/DEC Standards CC2-K1; and NBPTS Standards 1 and 4.)

C D 77  
Special Projects in Child Development  1/2 Unit  

C D 77W  
1 Unit  

C D 77X  
2 Units  

C D 77Y  
3 Units  

Prerequisite: Consent of instructor and division dean.  
Advisory: English Writing 1A or English as a Second Language 5.  
Three hours laboratory for each unit of credit (36 hours total for each unit of credit per quarter).  
(Any combination of Child Development 77W, 77X and 77Y may be taken up to six times, not to exceed 18 units, as long as the projects are different each time.)

Designed for students with a Child Development Permit at the Master Teacher level or above. Offers students the opportunity to research a topic of interest in the field of Child Development. Involved research of a topic of interest to the student. Research may include a review of the literature, interviews and other fieldwork such as exploring community resources or investigating a common teaching practice for effectiveness. (This course meets NAECY Standards 4c, Understanding Content Knowledge in ECE and Standard 5, Becoming a Professional; NBPTS Standards IX, Reflective Practice; and DEC-CEC Standard 9 Professional & Ethical Practice.)

C D 78  
Design, Program Development, and Daily Operation of Family Child Care  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).  
An overview of family childcare as a business and as a program for children. Starting your own childcare business, budget and contracts, licensing and safety requirements will be addressed. Relevant program issues such as designing indoor/outdoor environments, daily schedules, curriculum, child guidance, accommodations for all children and parent partnerships will be presented.

C D 90  
Facilitating Inclusion in Early Childhood Programs: Intervention Strategies  3 Units  

Prerequisite: Child Development 10G and 60.  
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).  
Expands upon a student's ability to work effectively with all children in early childhood programs and more specifically with infants, toddlers, and preschoolers with disabilities and other special needs in inclusive environments. Focus will include theories, research, and practical applications of best practices from both the fields of Early Childhood Education and Early Intervention/Early Childhood Special Education. Students will learn to design practical and effective intervention strategies for individual children with special needs within the context of natural environments and will learn to work in collaboration with IFSP/IEP teams. (This course meets NAECY Standards 1a, 1c, 2b, 3a, 3b, 3d, 4b; CEC/DEC Standards CC3-K4, CCK-5, CC4-S1-6, EC4-S1-3, CC5-K3, CC5-S1-5; and NBPTS Standards 2 and 4.)

C D 101W  
Current Issues in Child Development  1 Unit  

C D 101X  
2 Units  

C D 101Y  
3 Units  

C D 101Z  
4 Units  

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

All courses are for unit credit and apply to a De Anza associate degree unless otherwise noted.
One hour lecture for each unit of credit (12 hours total for each unit of credit per quarter).
(Any combination of Child Development 101W, 101X, 101Y and 101Z may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)

In-service workshop for teachers, aides, and parent volunteers to increase awareness of contemporary professional issues in Child Development.

C D 102W Curriculum for Child Development Personnel 1 Unit
C D 102X 2 Units
C D 102Y 3 Units
C D 102Z 4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
One hour lecture for each unit of credit (12 hours total for each unit of credit per quarter).
(Any combination of Child Development 102W, 102X, 102Y and 102Z may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)

In-service workshop for teachers, aides, and parent volunteers to improve skills and knowledge in the area of Child Development personnel.

C D 103W Topics in Preschool Program Administration 1 Unit
C D 103X 2 Units
C D 103Y 3 Units
C D 103Z 4 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
One hour lecture for each unit of credit (12 hours total for each unit of credit per quarter).
(Any combination of Child Development 103W, 103X, 103Y and 103Z may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)

In-service workshop for program directors, site supervisors, head teachers, or others with administrative or supervisory responsibility to improve skills and knowledge in the area of Child Development program administration.

NOTE: The CAOS program is being phased out. CAOS classes will no longer be offered after spring quarter 2013. See http://caos.deanza.edu/selfpacedcourses.html for details.

CAOS 93A Digital Imaging Software 4 Units
(Photoshop)
(Formerly Computer Applications and Office Systems 112A.)
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 Arts 83A. Students may enroll in either department, but not both, for credit.)
Eight hours lecture-laboratory (96 hours total per quarter).
Basic and intermediate principles using digital imaging software to produce graphics for websites and business documents.

CAOS 93A Business English I 2 Units
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Mathematics 114 or equivalent.
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
Review of English grammar, punctuation, usage, and writing skills and applications of these skills to basic business communications.

CAOS 90GA Computer Literacy I (PC) 2 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
Introduction to a computer - hardware and software. Theory and interactive learning activities using word processing, spreadsheet, presentation graphics, database, e-mail, operating systems, and Internet applications.

CAOS 91AN Word Processing I (Word 2010) 2 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
Concepts and applications using a word processing computer software program.

CAOS 91BN Word Processing II (Word 2010) 2 Units
Prerequisite: Computer Applications and Office Systems 91AN.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
Advanced word processing concepts and applications using a computer software program.

CAOS 93AN Spreadsheet I (Excel 2010) 2 Units
Prerequisite: Computer Applications and Office Systems 93AN.
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.
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
A general introduction to basic data manipulation skills and techniques used with spreadsheets: editing, computation, database management, graphing.

CAOS 93BN Spreadsheet II (Excel 2010) 2 Units
Prerequisite: Computer Applications and Office Systems 93AN.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
Advanced spreadsheet design using unique spreadsheet features: graphing, information retrieval, table searches, financial business calculations for decision making.

CAOS 95N Database I (Access 2010) 2 Units
(Formerly Computer Applications and Office Systems 110N.)
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 or 102N.
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
Use of database software to create, search, modify and arrange information.

CAOS 97N Introduction to Business Graphics (Office 2010) 2 Units
(Formerly Computer Applications and Office Systems 130N.)
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.
Four hours lecture-laboratory (48 hours total per quarter).
Pass-No Pass (P-NP) course.
Introduction to presentation software using Microsoft PowerPoint. Course provides hands-on experience to produce text, graphic, chart and graph images for professional presentations.

CAOS 98U Internship, Business/Computer Systems Division 1 Unit
CAOS 98V 2 Units
CAOS 98W 3 Units
CAOS 98X 4 Units
CAOS 98Y 5 Units
CAOS 98Z 6 Units
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
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 Computer Applications and Office Systems 98U-Z may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)

Introductory to business internship, involving practice and development of personal and professional skills in office 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/on 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.

CAOS 102N Microsoft Windows I (Windows 7) 1 Unit
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.
Two hours lecture-laboratory (24 hours total per quarter).
Pass-No Pass (P-NP) course.
Use of an operating environment which extends the Microsoft Disk Operating System (MS DOS) and the use of the Microsoft Windows Desktop Applications programs.